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# CLINICAL MEDICINE AND SURGERY



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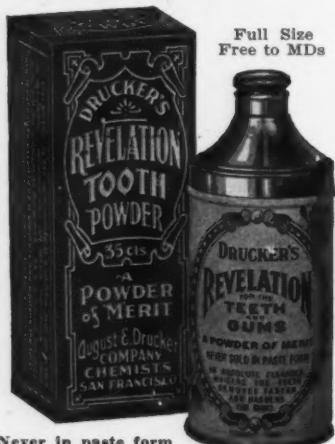
NUMBER 2

## • LEADING ARTICLES •

	PAGE
Radio-Knife Technic of Treating Cervical Lesions	63
Colloidal Manganese in Psoriasis	68
The Senile Heart	70
Emetine in Typhoid Fever	73
Endocrines and Local Therapy in Alopecia	76
Intestinal Toxicosis and the Endocrines	80
Sutureless Repair of Cervical Lacerations	83
Editorials	59

• COMPLETE TABLE OF CONTENTS ON ADVERTISING PAGE FOUR •

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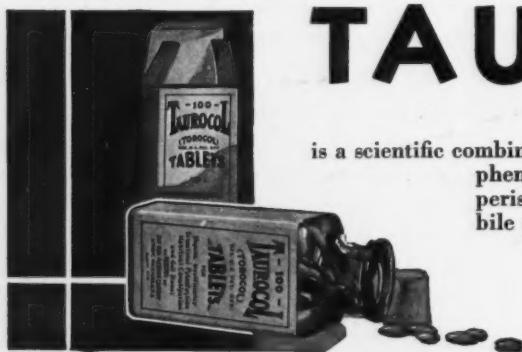
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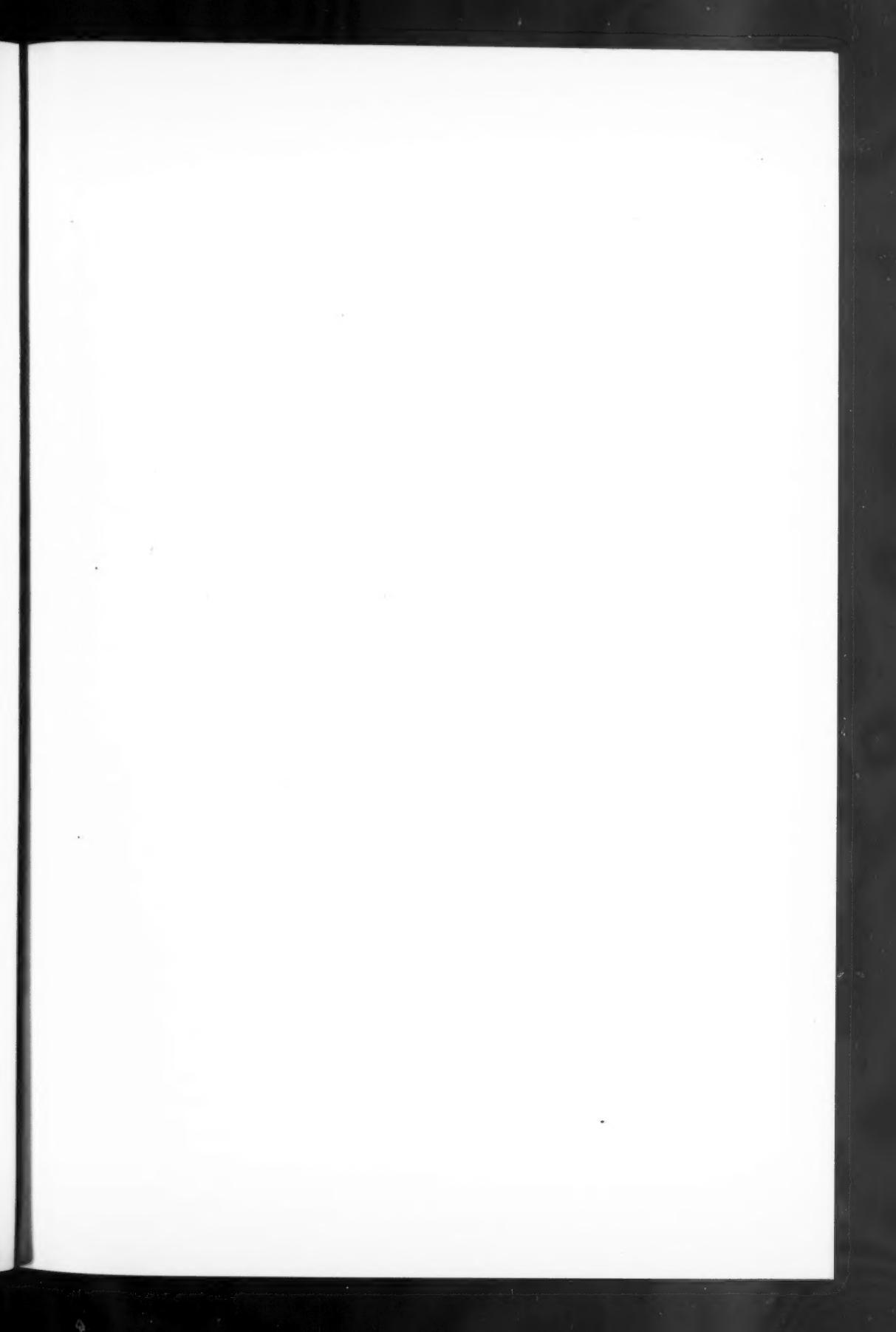
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THEODOR BILLROTH, M.D.



# CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.

• *Editor* •

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## EDITORIAL

### Theodor Billroth, M.D.

THE middle third of the nineteenth century was, perhaps, the golden age of the advancement of scientific surgery. It was during this period that Pasteur's discovery of bacteria was announced; that Lord Lister put this discovery to practical, clinical use; and that the general anesthetics, ether and chloroform, were introduced and widened the field of the surgeons beyond measure.

During the earlier part of this period, and for some time before that, practically all the notable advances in surgery had been made in France and England; but, about the middle of the century, a group of great German surgeons arose, including von Langenbeck, Difffenbach and Stromeyer, and it was into this powerful current of progress that Billroth entered as his medical career began.

Theodor Billroth was born April 26, 1829, on the island of Rügen; attended the Griefswald Gymnasium and the medical school at Göttingen; and was qualified to teach surgery in Berlin in 1852, becoming an assistant to von Langenbeck, to which great and inspiring teacher he owed much.

His independent career began in 1860, when he accepted the appointment as professor of surgery at Zürich University. He held this chair until 1867, at which time he received a similar appointment at the University of Vi-

enna, where he worked indefatigably until his death, February 6, 1894.

Nothing in the wide fields of anatomy, physiology, gross and microscopic pathology and surgery was foreign to Billroth's interest. Though he is best remembered as the first outstanding surgeon of the alimentary tract, there was practically no operation known at the time that he did not perform—and he invented many new ones. He was the first to do a total laryngectomy and to resect the esophagus and the pylorus. His gastric operations are still in use and bear his name. His technical skill was remarkable and his operations upon the thyroid, uterus, spleen, kidneys, liver and urinary bladder were as noteworthy as those upon the gastro-intestinal system.

Nor was he merely a facile clinical technician. In almost every department of surgical knowledge we find traces of his work. He was deeply interested in wound infections, septic fevers, inflammations of the bones and joints, tumors, tuberculosis and burns. His volume on "Surgical Pathology and Therapeutics" has been translated into almost every modern language and has run into many editions. His work on diseases of the female breast is a classic. His "Coccobacteria septica" (probably *Streptococcus pyogenes*) were

among the first fruits of bacteriologic research in surgery. He was said to have been as capable a bone surgeon as his teacher, von Langenbeck.

As a teacher, Billroth's fame was world wide. From every civilized country, physicians made pilgrimage to Vienna to hear his powerful and illuminating discourses and to see him work. He was particularly far-sighted in his choice of special pupils, twenty of whom, including Mikulicz, Czerny, Wölfler, Gersuny and von Eiselberg, became professors.

Perhaps the basic factor which made Billroth one of the greatest surgeons and teachers of all time was the fact that he was a great and good *man*. The sheer humanness of him, with his genial and charming personality, his immense energy and sense of duty and his strong artistic gifts (he was a poet and musician and a lifelong friend of the great composer, Johannes Brahms) and cultivated imagination, endeared him to all and made him, probably, the best known and loved of German surgeons.

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All of the brilliant modern discoveries have been possible only because venturesome minds have dared to speculate.—AUGUSTA GASKELL.  
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### Dinitrophenol in Obesity

A RECENT report of a great life insurance company carries the interesting information that about ten times as many applicants are rejected on account of indiscretions in eating, with resulting obesity, as are refused because of the abuse of various drinkables. In fact, in an era when vigorous physical exercise is uncommon among large classes of people, corpulence is becoming a real problem.

In spite of the genuine dangers which threaten the fat ones, few men are willing to limit their gastronomic activities for the sake of their health; and while certain young women whose sense of proportion is inadequate have starved themselves to preserve the slab-sided figure, which seemed more important a few years ago than it does now, many older ones, especially among certain races and classes, are as hard to wean from their hot-breads, ice-cream sodas, chocolates and other dissipations as is the old toper from his bottle.

Aside from certain cases of demonstrable endocrine deficiencies (and probably, to some degree, even in these), obesity is the result of overeating, deficient exercise or both; and

a return to normal weight is accomplished only by decreasing the former factor, increasing the latter or, preferably, both.

Endocrine, especially thyroid, medication has, within the past few years, become decidedly popular in these cases, but has definite dangers, because these products produce other effects in the body besides a mere acceleration of the metabolic processes, and these effects are by no means always harmless.

It now seems possible that the researchers are on the trail of a drug which will act as a substitute for exercise, in those who value the pleasures of the table above their general physical well being. It would, however, be premature to assume that the laws of Nature (which are older and more durable than our political Constitution) have been abrogated; but these new observations will bear close watching and study.

A recent article by Cutting and Tainter, in the *J.A.M.A.* (abstracted in this issue), suggests that dinitrophenol (1-2-4) is such a drug, as it appears to increase the metabolism of fats and carbohydrates, with a corresponding increase of body temperature and loss of weight, without burning the essential protein structures and without toxic effects, when given in therapeutic doses. It seems possible that this compound may also prove to be a practicable agent for the production of therapeutic fever in various conditions.

There may, however, be something even better than dinitrophenol (called, by "Merck's Index," alpha-dinitrophenol) for this purpose, as indicated by the results of animal experiments with 2:4-dinitroresol, reported by Dodds and Pope, in *The Lancet* (London), Aug. 12, 1933. These workers have found that the cresol compound, while equally toxic, dose for dose, as the phenol preparation, is three times as effective, therapeutically, so that one-third of the dose will produce a comparable increase in the metabolic processes. Clinical tests on human beings have not, so far as we know, yet been reported, but the laboratory findings are encouraging. Experiments along this line with dinitronaphthol are now in progress, but the results are not yet readily available.

Since obesity is increasingly widespread and menacing to health and longevity, it behooves all progressive physicians to keep themselves informed as to the researches along this line, and to use this information in their daily work, that their fame and fortune may be magnified.

### Empiricism

**A** GOOD many physicians seem to have the mistaken impression that the practice of medicine is now an exact science and that empiricism no longer has a place in it.

As a matter of fact, while the scientific basis of medicine has been vastly broadened during the past century or two, medical practice is still at least fifty percent art, and probably will remain so for several generations, at least; and experience will long remain an important factor in professional success.

Hippocrates was a close and accurate observer of the signs and symptoms of disease and of the effects of remedies about which he had no "scientific" knowledge—an empiricist; so was Galen; so, to a large extent, were Sydenham and the other great physicians of the past. They used their five senses fully and meditated upon the information so obtained, to the great benefit of their patients and their pupils. The fact that the noun "empiric," is now recorded in the dictionaries as being synonymous with "charlatan" is testimony to the degree of our smug self-conceit and to the fuzziness of our thinking, for every active clinician is more or less open to the ancient charge that he "applies remedies of which he knows little, for the amelioration of diseases of which he knows less."

The Peruvian Indians had known for years, by experience and observation (empirically), that the bark of one of their native trees would cure a certain type of fever; and in the seventeenth century it cured the Countess de Chinchon of her malaria (the name of the disease being a hangover of empiricism) just as effectively as quinine now rids the system of a known and recognized animal parasite. Yet some of our "ultrascientific" confreres would have made the good lady wait three centuries or more, for "respectable scientific evidence" to back them up, before relieving her of her distress!

Who really knows anything at all complete and definite about the nature and properties of electricity? And yet, observation and experiment have shown us that certain manifestations of this mysterious force are able to produce remedial effects in certain abnormal conditions which we call disease, and many capable physicians are using these methods upon a perfectly rational basis, even though it is, as yet, largely or wholly empiric.

The fact of the matter is that most physicians are making less and less of the meticulously accurate observations of patients, which made the name of Hippocrates immor-

tal, and are relying less and less upon their own clinical experience and more and more upon the dogmatic statements of self-constituted "authorities," as a basis for their professional work. This is one of the reasons why the general respect and love for the medical profession is diminishing.

No medical man of today is to be excused if he fails to bring to the aid of his patients all of the resources which modern scientific research has made available, so far as these apply to the case in hand; nor is any justified in denying to his patients the relief which will presumably be afforded by a remedy which, in his hands or in those of reliable others, has been shown by observation and experience, to be helpful in such conditions, even though he may not know just how it exercises its beneficent effects.

We thought we knew chemistry thirty-five years ago, but, with the discovery or postulation of the Bohr ("solar system") atom, the bottom fell out of our accepted notions. Bacteriology, too, is now dynamic instead of static, and leading bacteriologists admit that they know very little about the life-history of microorganisms; but our practical (empiric) chemistry and bacteriology still serve our purposes rather well, in dealing with sick people.

The first duty of the healer (clinician) is to improve the condition of his patient, by any means which scientific research or trained experience recommends as being likely to produce the desired results. Let him be as "scientific" as the particular conditions permit; but let him rely upon his developed perceptions and intelligence, rather than putting his whole trust in the declarations of laboratory workers or others who may lack both of these qualifications, replacing them by the titles of some social or political offices which do not depend upon specific personal abilities and who, in addition, may have axes to grind.

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There can be no substitute for experience—not even the opinions of experts, nor claims by manufacturers, nor reports by colleagues.—*The Hormone*.

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### Library Service

**E**VERY physician has need of a good medical and scientific library, and those who do any writing or research work need such help frequently.

Of course all physicians have more or less adequate personal libraries. Certain text and reference books must be always at hand for

instant reference. Among these, a set of bound volumes of **CLINICAL MEDICINE AND SURGERY**, with the excellent indexes which are now included in each December issue, will probably be used as much as or more than any other books.

But for the less pressing matters, such as preparing reports, writing papers or lectures, looking up the history of some disease, etc., a more complete collection of books and files of magazines than the average practicing clinician has money to buy or space to house, is essential. Most of the larger cities have such libraries available, but it takes a good deal of time and effort to utilize them. Physicians in the smaller places are often badly handicapped by having access only to the books on their own shelves.

The readers of this Journal are under no such limitations, for they have at their disposal one of the most complete private medical and scientific libraries in the country (nearly 15,000 volumes and other items), pictures of which appear in the *News* department of this issue, in charge of trained medical librarians.

If you want a bibliography, to aid you in preparing a talk or a lecture or in studying out some perplexing case; information about the contents, publisher, price or date of publication of some book in which you are interested; the name of the manufacturer of some drug or apparatus about which you have heard; or any of the other scores of matters which make most doctors feel, every day, that they wish they had more books of reference, our library is as close to you as your pen (or typewriter) and paper. Just tell us what you need and we will help you, promptly and to the best of our ability.

For those who would like the benefit of an unbiased opinion on any of their professional or economic problems, the Editor will be glad to give it, based upon his personal experience and the immense help which a large and well-managed library affords.

Those who are not taking advantage of these facilities are missing part of what they are paying for, because "C. M. & S." is not "just another medical journal," but a real

service to its readers, to help them in meeting their personal conditions more successfully.

Learning, undigested by thought, is labor lost; thought unassisted by learning, is perilous.—CHINESE PROVERB.

### Cancer

THE problem of malignant disease is now one of the most pressing matters engaging the attention of the medical profession, and its solution, as things now stand, depends largely upon the widest possible instruction of physicians of all classes, especially the general practitioners who see most of these cases first, and their daily use of the information imparted.

Toward this end, we have been accumulating a group of splendid, practical papers on the diagnosis and treatment of cancer, and we are now prepared to publish these in one issue of **CLINICAL MEDICINE AND SURGERY**, where they will be available for ready reference, as a *Special Cancer Number*, next month (March). It will not be *all* cancer, as the regular departments will appear as usual.

We shall be glad to hear the opinions of our readers regarding this "Cancer Special," and also how they feel, in general, about special issues devoted chiefly to one subject.

Especially, we hope that those of our readers who have had extensive experience in the diagnosis and treatment of cancer, and have

or developed methods which are especially effective for either purpose, will immediately write a clear and brief account of their technic and results and send it to us for consideration as to its inclusion in this special number. These articles or reports should not exceed 1,000 words in length (as short as possible, consistent with clarity and full working details), should, if possible, be typed with double spacing and good margins, and must be in our hands by the morning of February 16.

The more closely our readers will cooperate with us, the more we will be able to make this just the kind of journal they need and want.



# LEADING ARTICLES

## The Radio-Knife Technic of Treating Cervical Lesions and Removing the Uterus

By Dewell Gann, Jr., A.M., M.D., D.Sc., F.A.C.S., F.R.C.S. (Edin.), Little Rock, Ark.

SO MANY requests have come to me lately for an illustrated article on the technic of treatment of inflammatory lesions of the cervix, by methods other than surgical, that I feel it my duty to assist in clarifying the problem as much as possible.

Volumes have been written and much has been said about the cervix and corpus uteri within recent years, but without a thorough knowledge of the underlying pathology, no lesion of the body can be successfully treated with any given method. With this understanding, any one of several methods may be used in accomplishing the desired result in the same condition. For example, the cautery knife is as useful as the radio knife in the treatment of simple and papillary erosions of the cervix, and either may be used successfully by the novice; but when we come to the treatment of folliculitis (follicular erosion), the novice will succeed with the radio knife and may do more damage with the cautery than the master can ~~ever~~ come without a tracheloplasty which, ~~will~~ should seldom if ever be necessary.

Since my article in the December, 1932, issue of this journal, many requests concerning the use of the radio knife in connection with the gynecic system have come to me and I have concluded that it is not only advisable to give the technic of treating inflammatory lesions of the cervix, but to include our technic for removal of the uterus as well. I am not one of those who fear the development of malignant disease in a remaining cervical stump, if the latter is properly dealt with at the time the uterus is removed. In fact, if the endopelvic fascia is not disturbed in hysterectomies, one has little to fear so far as an anatomic result is concerned. This technic is used as a rapid method only and, as will be shown, can be done in a short period of time and, if the radio knife is used in doing the corporo-cervical amputation, the stump is sterilized as the knife cuts. The cervical lesions are, of course, treated from below before opening the abdomen.

The cervix is probably the most common seat of disease involving the pelvic organs. It has been time-honored, worn and abused,

endured all known agents in our armamentarium and submitted to tampons, excisions and many types of heat treatments. Personally, it held little attraction for me until I learned the possibilities it had as a focus of infection, affecting not only the uterus, but the organism as a whole.

Diseases of the cervix have been given but a small portion of the consideration they should have, menacing, as they often do, the entire gynecic system and not infrequently producing an effect on the general organism comparable, in some instances, to a complete loss of function. Cervicitis may be the cause of parametritis, paradnexitis, adnexitis, inflammatory infiltration of the utero-sacral ligaments, arthritides, etc., and may produce a train of symptoms such as leukorrhea, backache, dysmenorrhea, menorrhagia, metrorrhagia and nervousness of extreme degree.

The timely treatment of this condition may prevent sterility, puerperal sepsis, postoperative peritonitis, cancer and complete invalidism.

Not to digress further, let us remember that, by the end of the sixth month of life in utero, the original columnar epithelium on the portio vaginalis of the cervix and in the vaginal vault has been replaced by squamous epithelium, the columnar epithelium in the cervical canal forming the mucosa or endocervix, with its racemose glands. It is here, for the most part, that the inflammatory process begins. So long as it remains in the endocervix, it may be called endocervicitis. When extension occurs on to the portio, it is more properly carried in another column of terminology, such as simple and papillary erosion. When the process extends into the mucofibrous structure of the cervix, folliculitis is a better term, since folliculitis may and often does exist without endocervicitis or erosion. (When we speak of endosalpingitis we think only of involvement of the endosalpinx and not of the wall of the tube, as in salpinitis; and in appendicitis the lumen, not the wall of the appendix, is involved.)

There is a sharp line of demarcation between the columnar epithelium and the

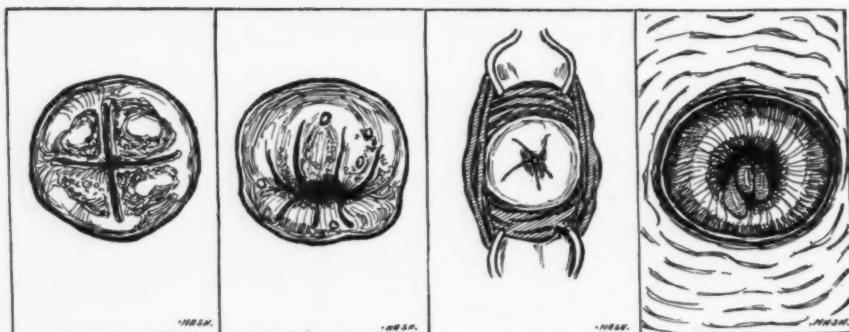


Fig. 1

Fig. 2

Fig. 3

Fig. 4

squamous epithelium at the external os, and here our story begins.

#### Pathology

When an inflammatory reaction takes place in any soft part we have the classical picture described in our text books: *rubor, calor, dolor, tumor and functio lesia*; and when inflammation occurs the wandering cells follow the lines of least resistance. The cervix is no exception and it is easily demonstrated, microscopically, that the columnar cells follow three, if not four, such lines. The first is from the canal to the portio. The columnar cells pass from the canal onto the portio in such a manner that, in their downward growth, the squamous cells covering the vaginal portion of the cervix are lifted and shed. This is the first line of least resistance. Clinically, at this time, the cervix presents a reddened area of variable dimensions about the external os, which is covered with a thick, mucoid material. Blood vessels shine through and bleed freely when touched. This condition is spoken of as simple erosion. At this time the pathologic process no longer remains within the endocervix. (Do not confuse this with pseudo-erosion—a congenital anomaly.)

On continuation of the inflammatory process there is also a continuation of the hypertrophy and hyperplasia of the columnar cells, this growth taking place in an exophytic (outward-extending) manner. The increased number of cells must find a place of abode, and the microscope shows them in tufts or papillae, on the portio, producing the well known papillary erosion, the second line of least resistance.

If the process continues and the stimulation is increased, the new columnar cells do not further pile up on the portio, but show a growth spoken of as endophytic in type (growing into the racemose glands). During this stage the columnar cells are seen to multiply within the lumina of the racemose glands and the glands push out into the musculofibrous structure of the cervix, thus

producing the well known follicular erosion, the third line of least resistance.

At this time cell edema is quite marked and the ostia of the glands are closed and their lumina filled with mucus, the first step towards the formation of the follicles of Naboth—a pathologic condition comparable to that seen in the formation of a sebaceous cyst. If the inflammatory process is not arrested at this time the endophytic growth of cells continues and the proliferation is so great that the cells are seen to pass from the canal into the musculofibrous structure, producing folliculitis.

When cervicitis reaches the stages of folliculitis, one may rest assured, in the majority of cases, that it will be accompanied by myometritis, lymphangitis of the utero-sacral and broad ligaments and para-adenitis. In these cases, anything less than a hysterectomy will seldom cure the patient.

In order to illustrate our methods of treating these lesions I am submitting a series of drawings, with descriptions that are self explanatory.

#### Management of Cervical Lesions

**Acute endocervicitis** (Fig. 1—and while acute it is always endocervicitis) is very easily rectified by either bisection of the anterior and posterior lips (to promote drainage), or, in advanced cases, quartering of the cervix. The needle should be placed near the internal os and drawn toward the operator as the hypotenuse of a triangle. A number-two coagulation current is sufficient. It may be increased as indicated. It is preferable because of lack of bleeding, as compared to the dissection or cutting current. Bleeding is usually insignificant and the endocervix is not destroyed. There is no slough. Future pregnancies are not interfered with and there is no undue cicatrization.

It should be generally conceded that in **simple erosions** (Fig. 2) the process has become chronic. A simple erosion is the first stage of a chronic inflammatory process and

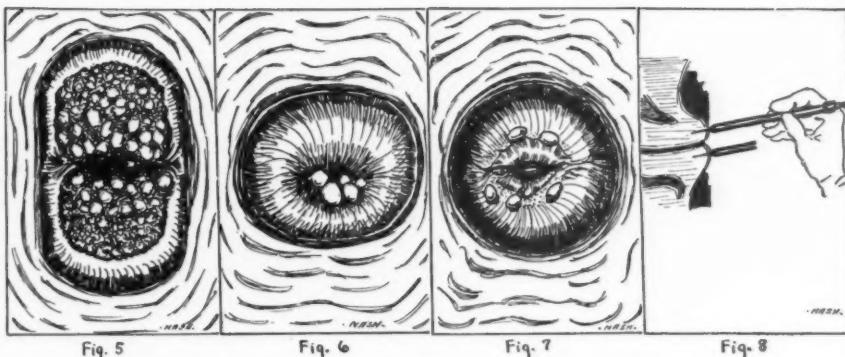


Fig. 5

Fig. 6

Fig. 7

Fig. 8

is readily amenable to striping, even when accompanied by eversion. (For the definition of erosion and eversion see Babblee, *A.J. of Ob. and Gyn.*, Vol. XXII, No. 1, p. 64, July, 1931.)

**Stellate lacerations** (Fig. 3) with simple erosion, like bilateral lacerations, are treated in a similar manner, except that all stellations are followed out with the needle on a No. 2 or deeper coagulation point. If dissection is used, bleeding may be troublesome. Healing is complete and satisfactory.

**Cervical polypi** (Fig. 4) seldom become malignant, contrary to the general opinion. They are easily snared with the loop, removing the pedicle attachment as desired. The polyp is the end-result of a chronic inflammatory process, in an individual of high resistance.

**Papillary erosions**, with or without eversion, are also amenable to striping. The ultimate cupping is satisfactory. V-shaped incisions with the loop are seldom necessary as I stated in 1926. Experience since then has borne out this contention in most cases. (Fig. 5 shows bilateral laceration of the cervix, with eversion and erosion.)

**Folliculitis** (Fig. 6), with or without erosion, with bilateral lacerations or with stellate lacerations, presents the most difficult problem among the inflammatory lesions of the cervix. In simple erosions with superficial cysts, linear cauterization, with simple cyst punctures, will bring about the desired results. When accompanied by stellate lacerations, it is necessary to follow out each stellation, placing the needle at its uppermost limit (that is, near the internal os) and pulling the needle forward.

Folliculitis without erosion is best handled by means of the parallel punch technic. In these cases the cervix is usually increased in diameter one or two centimeters. It is accompanied by lymphangitis of the utero-sacral ligaments, myometritis, paradnexitis, etc., with the accompanying backache, dysmenorrhea, pain in the adnexal regions, etc.

(Fig. 7 shows chronic endocervicitis, with a cystic area around the cervix.)

The parallel punch technic (Fig. 8) destroys the deep cysts and at the same time preserves the endocervix to a greater extent than any other method I have used. It is a boon to the child-bearing woman. A minimum amount of scar tissue remains when healing is complete. The distance between the external and internal os can be estimated with the needle. All punctures should parallel the cervical canal and approximate its depth. As many punctures as desired may be used.

The cyst formation in folliculitis, especially when eversion is present, often reaches a point near the internal os—a fact that must be borne in mind when dealing with this lesion. I have even seen the process pass the barrier presented by the internal os (Fig. 9).

Before removing a cone-shaped portion of the cervix, which is necessary only in the very advanced cases, the cervix should be bisected into an anterior and posterior half, in order to ascertain how much of the canal and musculofibrous structure is involved (Fig. 10).

In cases of sterility with a pin-point os and a large pocket behind it, the club-shaped electrode is used and the cervix quartered (Fig. 11).

Stenosis, stricture or scar tissue formation in the cervical canal (Fig. 12) is little to be feared when using the radio knife, as compared with other technics. Neither is the postoperative care so exacting.

#### Hysterectomy

Many cases present themselves, in which a simple correction of the cervical pathosis is inadequate. In addition, these cases have pathologic conditions requiring operations that may approximate several in number. In fact, in 50 consecutive hysterectomies associated with cervical lesions, done last year, each case had an average of five operations. The average time of the five operations was thirty-seven minutes; the average stay in the hospital was

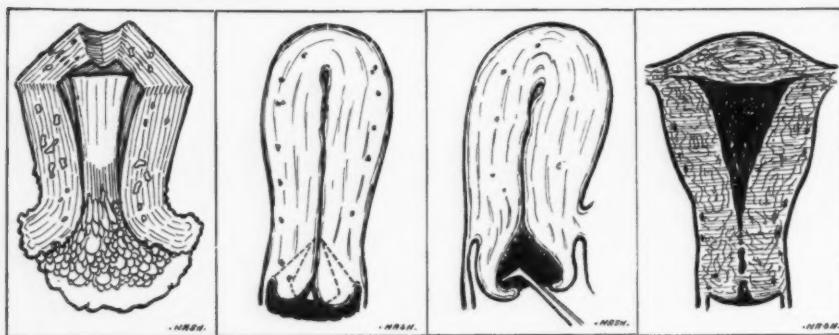


Fig. 9

Fig. 10

Fig. 11

Fig. 12

fourteen days; the average of the highest temperature was  $101.2^{\circ}\text{F}.$ ; the average of the highest pulse rates was 113. There was one death—a patient sixty-eight years of age, who died of hypostatic pneumonia, in spite of frequent changes in position, etc.

Folliculitis, accompanied by myometritis, lymphangitis of the broad ligaments, paradesmritis, etc., is an indication for hysterectomy not previously published and to which I now invite attention. Failing to recognize it as a clinical entity, many cases of pain in the lower abdominal quadrants, backache, menorrhagia, dysmenorrhea, etc., will be admitted to our "Class A" hospitals, be operated upon and go home without relief, as manifested by my studies of 1921. Of this I am positive.

During the depression and in times of dire need, some of us had to consider our patients from an economic point of view, much as we did man-power in the time of war. It was not so much what to do for the patient, but what could the patient afford to buy, in the way of hospital service, not considering our services of any monetary value. The cervix could not be cleared up as in the days of "election." It must be treated in such a manner as to produce a cure; at the same time all other pathologic tissue must be removed and the life of the patient safeguarded, at the risk of the reputation of both the surgeon and the hospital.

In view of this fact, it was necessary to devise some rapid method of hysterectomy that could be performed in connection with numerous other procedures. I am presenting this method, in the hope it may serve others in the manner for which it is intended.

The technic of any operation must be devised with the view of (1) preventing infection, (2) postoperative hemorrhage and (3) shock. In addition to the foregoing, in dealing with the gynecic system, the prevention of postoperative vaginal prolapse is said to be of importance.

The method illustrated here has been used

for several years, with uniformly good results and without complications. The end-results are as satisfactory as those with the Graves or any other type of operation I have used. Usually a sub-total hysterectomy is the method of choice when numerous other procedures are to be carried out and the cervix is to be dealt with, according to the preceding illustrations pertaining to the technic of treating cervical lesions.

#### Technic

1.—For anatomic reasons, the incision is of the paramedian type and is usually made to the right of the median line, extending upward from the pubis to a point near the umbilicus. It may be made with a scalpel or radio knife.

2.—A point is selected midway between the midpoint of the rectus muscle and the linea alba. The incision is extended through the skin, fascia, fat and anterior sheath of the rectus. Bleeding points may be clamped and coagulated.

3.—The belly of the rectus muscle is dislodged, laterally, until the deep epigastric vessels are nearly visible.

4.—The posterior sheath, if present, the pro-peritoneal fat and the peritoneum are incised at a point lying beneath the one selected for the skin incision.

5.—If operating under gas anesthesia, the index and middle fingers of the left hand are introduced into the abdominal cavity as guides. The recti muscles are infiltrated with 0.5-percent procaine solution, followed by a subcutaneous injection, to the extent of one or two inches on both sides of the incision. If epinephrin is added to the procaine solution, three drops to the ounce are used. In a short time the abdominal contents are quiescent—not so much so as when local anesthesia alone has been used, but sufficiently to permit moderate handling of the uterus and adnexa.

6.—Warm, moist towels are laid alongside the incision and a self-retaining retractor is placed in proper position.

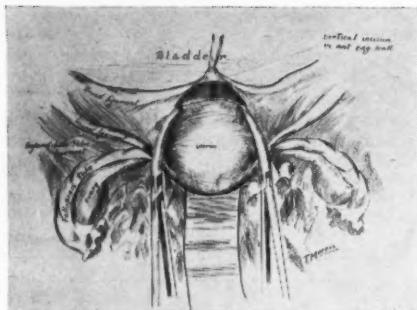


Fig. 13.—A curved toothed hemostat is placed on each side of the uterus.

7.—A warm, moist pack is gently tucked into the cul-de-sac. A block-tin-blade retractor is placed between the uterus and gauze.

8.—The uterus is brought into view and a curved, toothed hemostat placed on both sides of it, in such a manner as to include

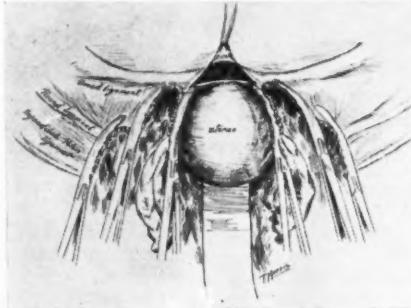


Fig. 14.—Curved clamps are placed on the ligaments and uterine vessels.

the tubes, round, utero-ovarian and broad ligaments, and uterine vessels. These two clamps take the place of a tenaculum, and traction on them brings the uterus well into the field of operation (Fig. 13).

9.—The vesico-uterine reflection of the peritoneum is identified and incised with a pair of scissors, as shown.

10.—Curved clamps are placed on the infundibulo-pelvic and round ligaments. The structures are severed between the clamps and a third clamp placed on the uterine vessels, which are now severed, and the process repeated on the opposite side (Fig. 14). The uterus is lifted by traction on the uterine forceps and the position of the cervix identified. (The anterior vaginal wall is incised vertically with the radio knife, if a complete hysterectomy is to be done.)

11.—A tenaculum or a  $7\frac{1}{2}$  inch, straight, toothed clamp is placed on the anterior lip of the cervix (Fig. 15). If the cervix and vagina have not been sterilized previous to this time, a gauze sponge soaked with iodine is inserted into the vaginal vault, which is then

completely severed in a circular manner, the uterus removed and the iodine-soaked sponge taken from the vagina. A single-tooth tenaculum is preferable, because it does not squeeze the cervix. If the radio knife is to be used, extreme care must be exercised to see that the field is dry and no iodine in solution remains.

12.—A plain, No. 1, double strand of catgut, on a curved, round needle, is placed in each angle of the vaginal vault. The free ends are clamped. One clamp is taken out of the lower, the other out of the upper angle of

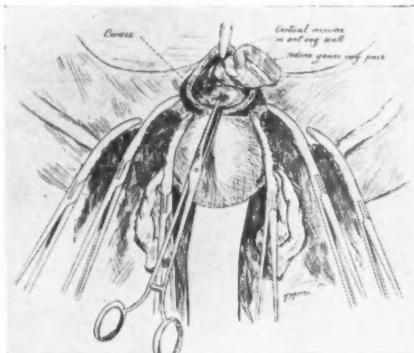


Fig. 15.—A tenaculum is placed on the anterior lip of the cervix.

the incision (Fig. 16). These sutures serve as guys during the remainder of the operation and later doubly insure against hemorrhage and postoperative prolapse of the vaginal vault.

13.—Clamps that have been applied to the ligaments and uterine vessels on the side of the operator are identified. A double strand of plain No. 1 catgut, with a knot in the end, on a curved, round needle, is passed around the infundibulo-pelvic ligament in such a manner that, when drawn taut, it acts as a tie. The hemostat is removed and reapplied. The needle is then passed over the round ligament, likewise over the uterine vessels and through the endocervical portion of the pelvic fascia and posterior vaginal wall, in such a manner as to lock the stitch around each structure. As the structures are included in the suture line, the clamps are removed and reapplied, for the purpose, first, of inspecting the stump for bleeding and, second, to permit easy identification later.

14.—The infundibulo-pelvic and round ligaments and the uterine vessels are now brought into the angle of the vaginal vault, by traction on the clamps, and transfixed with the guy suture. The needle on the double strand of catgut is now picked up and passed through, first, the uterine vessels; second, the round ligament; third, the infundi-



Fig. 16.—Sutures are now introduced as described, bulo-pelvic ligament; and fourth, the anterior vaginal vault (Fig. 17).

15.—The procedure is continued on the op-

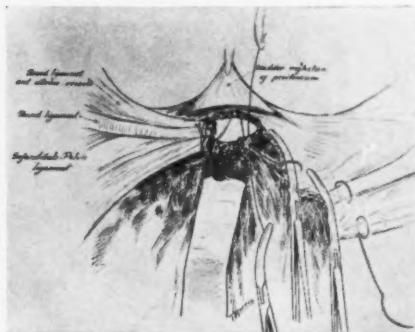


Fig. 17.—The ligaments are now sutured into the angle of the vaginal vault.

posite side, but in a reverse manner, after which like structures are sutured to one an-

other and the suture passed through the round ligament and then through the reflected peritoneum, which is used to cover the raw ends of the stumps as shown in the illustration, using the same suture (Fig. 18); or, as I am now doing more often, the structures on the side opposite the operator are first transfixed with the guy suture and then sutured into the vaginal vault.

16.—All blood clots are removed and the field sponged dry. It will be noted that this is the first time a sponge is introduced into

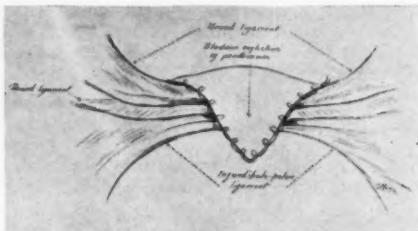


Fig. 18.—The stump is covered with peritoneum, using the original suture.

the cul-de-sac—one of the most shock-producing elements connected with a procedure of this kind.

17.—A drain may or may not be placed in the cul-de-sac. The gauze pack is removed and the rectum and sigmoid allowed to return to their customary locations.

18.—The peritoneum is closed with a double strand of No. 1 chromic catgut on a round needle. The muscle is permitted to recede into its former bed and the anterior sheath of the rectus and fascia are brought together with the same suture. Stay sutures are not used. The skin is closed with clips.

215 E. 6th St.

## Colloidal Manganese in Psoriasis

By D. P. Bowden, M.D., Cleveland, O.

**P**SORIASIS presents one of the most baffling problems with which medical science has had to contend. Although there are indications that the disease has existed for many centuries, the importance of this malady, from a standpoint of social economy, has not been fully recognized. According to statistics, the disease is very common, harming those attacked, to say nothing of the damage to the complexion and general appearance, in that their daily occupation is made more difficult. Those afflicted are often looked upon as repulsive and, quite erroneously, as carriers of a contagious disease. Thus they often remain unemployed and are socially avoided.

Since the etiologic factors have not, as yet, been definitely established, the treatment has been void of definite direction and, today, varies greatly and yields, in most instances, only mediocre and temporary results.

Among the numerous methods recommended, only those that have proved at all practical and reliable, from a therapeutic point of view, will be discussed.

Therapy with arsenic, which is of transitory benefit in some, but by no means in numerous cases, is not without certain dangers, inasmuch as the various forms of chronic arsenism, especially melanodermia, hyperkera-

tosis and even carcinoma and neuritis, are apt to develop.

The very tedious administration of yellow iodide of mercury is unsuccessful in most cases.

By means of x-ray therapy, rapid as well as favorable results are sometimes noticed; nevertheless, number of objections must be raised in connection with this form of treatment. Above all, the cost is quite considerable; moreover, the disappearance of the symptoms of the disease is no more marked after exposure to x-rays than after many other of the methods of treatment. Then too, the psoriatic patient seems particularly disposed to injury from overexposure, and both the external form of treatment and the arsenic therapy tend to heighten this sensitivity. Even long intervals between the individual treatments do not entirely do away with this danger. As long as ten years after the treatment of psoriasis by means of x-rays, the most serious forms of radiation injuries have been noticed, especially carcinoma of the hands, which, being the result of an attempt to cure merely a superficial dermatosis, is particularly disastrous.

In most recent times, various European medical journals have reported instances of successful cures in the treatment of psoriasis with certain manganese compounds.

The active principle of therapy with manganese is, according to Bertrands, the property of manganese dioxide, by virtue of which oxygen is imparted to the diseased tissues.

Pautrier, however, asserts that manganese does not yield oxygen directly, but acts as a catalytic agent during the oxidation process, which takes place within the cells of the epidermis. Be this as it may, by means of the manganese dioxide which is set free, the resistance of the cells attacked during the course of the disease is raised and becomes manifest, usually after the third injection has been administered. The deep-red efflorescences fade into a light pinkish hue, gradually assuming the color of a murkish yellow, then to a light brown, thereby showing the oxidative influence upon the lesions. I have found the ion-dispersive colloidal compounds, such as Psorimangan, of particular advantage in the greatest variety of cases. This product has proved its merits, uniformly and consistently, in my hands.

Because of the good results with this preparation in the treatment of psoriasis, as reported by W. Richter and others (cf. *Zbl.* 35, page 733), I began using it on a group of patients: 14 men, their ages ranging from 16 to 46 years, and 20 women, 22 to 60 years of age. Every case, whether ambulant or confined, was one in which many treatments of various kinds, often beginning at birth, in-

cluding x-ray therapy of the skin, the thymus gland and the spleen, had been given with no noticeable improvement. The types of the disease were fundamentally different, ranging from punctiform excrescences at typical places upon the limbs, to a complete covering of the entire body. All known forms and localizations were represented in these groups.

#### Technic

The treatment was carried out in the following manner: One intragluteal injection was given weekly, starting with 0.5 cc. (later two injections weekly), gradually increasing the dose to 0.75 and 1 cc., until the maximum of 2 cc. was reached. My preference is for a fairly stout platinum-iridium needle,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches in length. Every patient received from 16 to 24 injections. The average course of treatment required from 2 to 3 months.

Ion-dispersive Psorimangan was given intramuscularly because the majority of patients had to remain ambulant, on account of their duties at office and factory work. At times, however, this technic reveals astonishingly quick results. The treatment is usually accompanied by a rise in temperature to from  $102^{\circ}$  to  $104^{\circ}$  F. Individual patients complained of slight headaches.

Other secondary effects, such as metallic poisoning, I have never observed, even in cases receiving many injections, nor have I found albumin in the urine as a consequence.

Initially, 1 cc. is given intravenously; later 2 cc. With these doses, twice weekly, the treatments were carried out to successful terminations. In most cases a decided improvement was observed after the second or third injection. An aggregate number of from 16 to 24, sometimes 30 injections, I consider necessary in the majority of cases, although complete elimination was achieved in several cases with only 8 injections, which were alternately given intravenously and intragluteally.

#### Summary

Of the 34 cases treated, 27 made a complete recovery, while the remaining 7 could not be discharged as cured. However, being greatly improved, they were told to resume treatment after two months. Three (3) of these patients reported at the stated time but, upon examining them, it was found that the few lesions which remained at the time they received the 24th injection had completely vanished during the interim, no further treatment being required. The 4 remaining patients in this group of 34 did not report, having moved to other cities.

Upon the basis of these clinical observations, I suggest that this apparently harmless treatment be tried extensively in cases of psoriasis, and the results reported.

925 Euclid Ave.

# The Senile Heart

By W. Forest Dutton, M.D., Amarillo, Texas

THE term "senile heart" is difficult to define, yet it is a pathologic entity of much significance. It has no definite relationship to old age, nor to sex, although the condition usually occurs in persons of over forty years. The age of the heart is influenced by numerous factors, many of which seem paradoxical to the average clinician.

A great many cardiologists associate the senile heart with a clinical group due to the effects of arteriosclerosis and to the lesion known to morbid anatomists as fatty infiltration. As a matter of fact, this is only a type of syndrome. The etiologic factors include infectious diseases, diseases of the endocrine, metabolic and nervous systems, and diseases of the digestive, circulatory, blood, hemopoietic and urogenital apparatus. There is no condition in the scope of medicine that shows such a varied etiology and symptomatology.

The fallacies of cardiac pathology are based on the theoretic assumption that the heart possesses the power to cover the field of response represented by minimal and maximal demands—absolute rest, on the one hand, and severe physical strain on the other; that it will tide over, unaided and without additional damage, the period between onset of a lesion and the occurrence of established pathosis, which may result from infection; endocrine and metabolic dysfunction; circulatory, hemopoietic and nervous disease; or traumatic inhibition of normal function.

The existence of a prematurely senile heart is just as reasonable as is premature baldness, cirrhosis of the liver or Bright's disease. A heart which has been weakened and dilated under an acute toxemia of the sort associated with endocarditis or myocarditis, or one which is more or less continuously subjected to chronic toxemia or sepsis and recurrent or persistent overstrain, cannot remain safe from actual disaster unless necessary relief is afforded the patient. A succinct outline of causative factors, following the concept set forth as a result of clinical experience and experimental work, is offered in the following paragraphs, as an incentive to a more reasonable treatment of the senile heart.

A therapeutic regime in any patient having cardiac disease should not be outlined, except in emergencies, until the history has been taken, a complete physical examination made and a diagnosis arrived at, incorporating all the factors directly and indirectly effecting the condition.

Prevention of any disease usually depends

on knowing the cause and being able to prevent the occurrence of the causative factor. The factor of cause of the senile heart is very uncertain, except for acute or chronic infectious diseases in relation to valvular lesions and lesions of heart muscle. Prevention of these lesions depends almost entirely on our ability to prevent infectious diseases affecting the heart or to limit the damage after it has been discovered through examination.

Heart disease is today one of the most widespread causes of death and economic loss. Education relative to the importance of annual or biannual examinations should minimize the incidence of heart disease. Particular attention should be directed to exogenous and endogenous poisons, overeating, overweight, excess in sexual activity, excessive mental and physical strain, and occupational conditions.

What to do when a senile heart is discovered by physical examination and no symptoms have been complained of, or when slight symptoms, possibly of cardiac origin, have caused a patient to seek advice, is often the major problem presented to the physician; to solve it satisfactorily is not always easy.

In the first place, it is necessary to decide what bearing the pertinent factors have on the cardiac condition. When these are given due consideration, they should be treated accordingly.

## Gastro-intestinal Apparatus

Diseases of the gastro-intestinal apparatus are unquestionably the greatest single factor, aside from infectious diseases, in their influence on the heart. Chronic gastritis, with hypochlorhydria or hyperchlorhydria and concomitant symptoms, greatly limits the trophic, circulatory and mechanical functions of the heart. Any disease of the pancreas, liver, gall-bladder, small intestine, appendix, colon or rectum, with attendant toxemias, causes degeneration of heart muscle, nerve supply and blood vessels. These conditions may exist in the young and middle-aged, as well as in the old person.

Chronic gastritis with hypochlorhydria should receive adequate doses of dilute hydrochloric acid with fluid extract of cardamom compound, accompanied by a proper diet. If the patient should have secondary or pernicious anemia, liver extract and iron, by mouth or parenterally, or ventriculin with iron, are indicated.

Chronic gastritis with hyperchlorhydria is met with such measures as proper diet and

sufficient alkaline or other medication to inhibit the abnormal secretion of hydrochloric acid.

Peptic ulcers and pathoses involving the lower intestinal tract should be treated by the usual accepted methods.

#### Urogenital Apparatus

Any marked deviation from normal in kidney function creates a toxic and mechanical factor directly effecting the heart. Arriving at a decision as to the proper medication in the various types of kidney disease requires the highest grade of clinical acumen. A great deal depends upon the diet. No hard and fast rules can be laid down, each case being a study in itself. The diet should be simple and nourishing, moderate in quantity and easily digested. If permissible, moderate exercise should be encouraged. Excessive muscular effort, mental strain and worry should be avoided. In order to guard against vicissitudes of weather, flannel should be worn next to the skin in all seasons. Warm baths, or suitable mineral baths with friction, are useful in promoting free action of the skin. If necessary, saline cathartics or enemas may be used to keep the bowels active.

Edema is a frequent complication of nephritis. Strict limitation of fluids and a salt-free diet will often cause the dropsy to disappear. The Karell diet is simple, but highly effective.

Hydragogue cathartics, hot packs and diuretics are of value. The organic salts of potassium, theobromin, caffeine and theophyllin may be of service. Digitalis, calcium chloride and ammonium chloride favor the removal of sodium and water from the body. Novasurol is frequently an effective diuretic.

Basham's mixture, in my experience, has yielded excellent results in edema with albuminuria, after other diuretics have failed.

In the treatment of severe renal insufficiency with high blood pressure, a restricted diet, rest, sedatives, vasodilators and venesection, followed by dextrose, are indicated. Diuretics of the caffeine group or digitalis may prove invaluable. In men, the prostate should receive consideration. The uterus, tubes and ovaries, in woman, may prove a factor as foci of infection. Blood-chemistry determinations are essential diagnostic aids to prognostic criteria.

#### Blood and Hemopoietic Apparatus

The blood and hemopoietic apparatus are factors which contribute to adequate function of the heart. Any dyscrasia will directly or indirectly favor organic cardiac disease. It is, therefore, imperative that the blood and blood-making organs should be kept as nearly normal as possible.

#### Respiratory Apparatus

A complete survey of the respiratory apparatus is essential to conservative treatment

of the heart. Disease of sinuses, turbinates, larynx, tonsils or the lungs are conditions which, in general, produce a perceptible effect on the heart. These are usually manifest in childhood or early adult life and are not discovered until marked cardiac damage is evident. For this reason, the senile heart is a sequence of neglected treatment in its incapacity.

#### Metabolic, Endocrine and Nervous Systems

For obesity, overweight or undernutrition, proper diet is essential. Endocrine dysfunction, such as glycosuria, hyperglycemia, hypoglycemia, hyperthyroidism, hypothyroidism, pituitarism, adrenal disturbances and the like demand appropriate treatment.

All diseases of the central and autonomic nervous systems effect the functional and organic conditions of the heart, directly or indirectly. Caution should be strictly adhered to in treatment of diseases of the nervous system. A properly balanced life, guarded against the excessive mental and physical strain of modern existence and protected from infections, which longest will maintain the individual free from embarrassing symptoms, makes for longevity.

#### Circulatory Apparatus

The pulse rate, in an adult, has a normal range of from 70 to 80 beats per minute. Any marked deviation from this rate, after moderate exercise, denotes pathosis. The variations of amplitude have their significance. Arterial degeneration may be noted upon palpation of radial, superficial temporal and dorsalis pedis arteries. Ophthalmoscopic examination of the retinal vessels frequently reveals early degenerative processes. The oscilometer, the recording sphygmomanometer and the electrocardiograph are valuable aids in diagnostic work.

Cazallic aptly stated, "A man is as old as his arteries." It was my privilege, in 1900, to observe Dr. Osler make a diagnosis of arteriosclerosis in a youth sixteen years of age.

Peripheral resistance at first embarrasses the heart and then causes a degenerative compensatory process. A man is as old as his heart, whether he is sixteen or sixty. Heredity is an important factor in cardiovascular diseases. Necropsy frequently reveals a senile heart in persons under twenty years of age.

The aorta is subject to inflammatory and degenerative conditions. Preventive measures assure a certain degree of immunity. Treatment of inflammatory or degenerative conditions, such as aortitis or aneurism, has proved unsatisfactory except in luetic conditions.

Blood pressure is a fair criterion of cardiovascular function. Hypertension and hypotension are relative terms, used to express a marked deviation from normal. They are me-

chanical terms, based on the justified assumption that the condition has a functional or organic antecedent. That is to say, hypertensive heart disease appears to be associated with myocarditis in the beginning; yet 60 percent of the cases of myocarditis show hypotension in the terminal stage. Pulse pressure may be high or low, depending upon the factors effecting the cardiovascular system. A pulse pressure below 25 or above 50, if continued, may be regarded as pathologic.

The pulse pressure represents the efficient work of the heart and is the variable pressure to which the arteries are subjected during systole. Its response to an exercise test elicits valuable evidence as to the condition of the heart muscle. Low blood pressure, when not the result of disease, is comparatively harmless. A low systolic and pulse pressure, with a comparatively high diastolic pressure, usually indicates myocardial weakness and, when found associated with uncompensated cardio-vascular-renal disease, is of bad prognostic omen.

#### Remedies

*Adonidin*: prompt cardiac stimulant, like digitalis.

*Adrenalin*: intravenously, as a powerful cardiac stimulant.

*Ammonium Bromide*: in nervousness and insomnia.

*Amyl Nitrite*: to relieve spasmodic heart pains.

*Asphenamine*: in syphilitic conditions.

*Barium Chloride*: in complete heart block.

*Basham's Mixture*: diuretic in chronic nephritis.

*Belladonna*: in arrhythmia and palpitation.

*Bismarsen*: in syphilitic conditions.

*Blisters*: over the precordial region, as stimulant in extreme weakness.

*Caffeine*: as cardiac stimulant and as diuretic.

*Cardiozal*: in circulatory failure.

*Coramine*: circulatory and respiratory stimulant.

*Dextrose and Sodium Chloride*: intravenously, following venesection, as a diuretic and cardiac stimulant.

*Digitalis*: very useful in weak, rapid heart and in valvular disease and irritable heart.

*Dionin*: in dyspnea and cough.

*Diuretin*: as diuretic.

*Erythrol Tetranitrate*: to lower arterial tension.

*Ether*: 20 minimis hypodermically, in sudden heart failure.

*Euphydigital*: in heart and circulatory decompensation.

*Euphyllin*: as diuretic.

*Ice bag*: over precordium, in acute pericarditis.

*Iron*: in anemic forms, dilatation, fatty heart and mitral regurgitation.

*Liver Extract (Anabolin)*: in hypertension.

*Magnesium Sulphate*: in hypertension.

*Massage*: valuable in peripheral circulatory failure.

*Mercury*: in syphilitic conditions.

*Morphine*: in dyspnea, angina, diseased coronary arteries, mitral regurgitation, aortic disease and paroxysmal tachycardia.

*Novasurol or Salyrgan* (with ammonium chloride): in edema.

*Ouabaine*: after venesection, in acute edema of the lungs; in aortic insufficiency in place of strophanthin.

*Oxygen*: in dyspnea and cyanosis.

*Phenobarbital*: as a sedative.

*Pituitary Extract*: circulatory stimulant.

*Potassium Iodide*: in non-compensatory mitral and myocardial diseases and in cardiac disability.

*Potassium Iodide and Theocalcin*: in arteriosclerosis and angina.

*Quinidine Sulphate* (with strychnine sulphate): in auricular fibrillation.

*Sajodin*: when potassium upsets the stomach.

*Salicylates*: in rheumatic endocarditis.

*Solvochin*: in paroxysmal tachycardia.

*Spirit Glyceryl Nitrate (Nitroglycerin)*: to lower arterial tension in cardiac failure or weakness.

*Strophanthin*: if digitalis fails.

*Strychnine Sulphate and Quinine Sulphate*: in involvement of the bundle of His and as stimulant to the vegetative nervous system.

*Theocalcin*: diuretic and myocardial stimulant.

*Theocalcin and Digitalis*: in myocarditis.

*Theominal*: in high blood pressure.

*Theophyllin*: as a diuretic.

*Urea*: in the treatment of cardiac dropsy.

*Venesection*: in marked cyanosis and dyspnea.

414 Oliver-Eakle Bldg.

#### TAXES AND WORK

Under present conditions, every man and woman over twenty-one years old in this country is paying \$166.00 a year in taxes. If this could be "worked out," as farmers used to pay their poll tax in labor, it would require three months, or one-quarter of the year's work, to pay it.—COMMITTEE ON AMERICAN EDUCATION.

## Emetine in Typhoid Fever

By W. L. Frazier, M.D., Boise, Idaho

HERE and there throughout the history of typhoid fever different authorities have recorded cases that have been aborted; cases which were authentic inasmuch as they presented a positive diagnosis, either by the blood presenting a positive Widal test or a positive culture or both. The abortion of these cases has been attributed to the rapidity with which the defensive properties in the individual destroyed the typhoid organism. Though the principal way of controlling infections is by increasing the defensive properties of the individual, that the infection may be destroyed, the introducing into the system of properties which will destroy an infecting organism is another, though a less common, way of controlling infection.

About 1910 I was treated for an amebic infection by the use of ipecac in salol-coated capsules. I then had the thought that ipecac might give abortive results when used in the treatment of typhoid fever, either by increasing the defensive properties of the individual or as a property destructive to the typhoid organisms. The next 5 cases of typhoid fever I saw were treated with ipecac in salol-coated capsules, and the results were the aborting of each case within five to six days. Each of these cases presented a positive Widal test, though the test was not positive in any of them until after the treatment was started, because the treatment, in each case, was started early.

After the five cases were treated they were reported in *AM. JOURN. OF CLINICAL MEDICINE* in May, 1916, page 442.

I used ipecac in salol-coated capsules only until a good quality of emetine became available, after which emetine was adopted instead of ipecac, because its use and doses could be better regulated. It was found thereby that the abortion could be produced in a few hours less time.

The doses of emetine used have varied considerably. At first  $\frac{1}{3}$  grain (20 mgm.) was given by hypodermic injection once or twice a day, but tests and observations have shown that a smaller dose, given once a day, is entirely adequate. Consequently the smaller dose has been adopted as standard.

The use of emetine in typhoid fever is empiric. I have no scientific knowledge, nor even a theory upon which to base its action. It depends upon further scientific study to reveal the reason for its action and to deliver it from its empiric position.

This treatise is not intended to give the last possible word on the use of emetine in the treatment of typhoid fever, but to present

that treatment and use to the extent that I have observed it. My observation is that typhoid can be aborted regularly within from four to six days, thereby saving the typhoid patient the risks, hazards and loss of time incident to typhoid infection allowed to run its course. The way selected for accomplishing my purpose is by presenting case records of patients on whom the drug has been used.

### Case Reports

**Case No. 13:**—Female, twenty-four years of age, school teacher. Her brother had had typhoid fever and was cared for at home in the usual way. She taught school away from home but returned home on Fridays and went back to her school on Monday mornings. On a Friday morning she had a headache and stated that she did not rest well on Thursday night, and that she had felt languid and restless since Wednesday.

Day	Hour	Temperature	Emetine
1	8 A. M.	99.6° F.	
2	9 A. M. 7 P. M.	99.4° F. 99.8° F.	
3	9 A. M. 7 P. M.	100. ° F. 101. ° F.	
4	9 A. M. 7 P. M.	100.4° F. 101.6° F.	1/3 grain
5	9 A. M. 7 P. M.	102. ° F. 99. ° F.	1/3 grain
6	9 A. M. 7 P. M.	98. ° F. 97.6° F.	1/3 grain
7	9 A. M. 7 P. M.	97. ° F. 97.5° F.	1/6 grain
8	9 A. M. 7 P. M.	96.8° F. 97.6° F.	1/6 grain
9	9 A. M. 7 P. M.	96.6° F. 98.4° F.	1/6 grain

The emetine was continued in 1/6 to 1/12 grain (10 to 5 mgm.) doses, repeated every second or third day, until after the third week. Her convalescence was rapid and complete.

In this case the opportunity of observing the case early was of considerable advantage. The fact that there was a known probable exposure to the infection kept her alert for early symptoms. Widal tests made on the second, fourth, sixth and ninth days were not positive until the ninth day. Besides the positive Widal test, which occurred on the ninth day, she presented, from the onset, the abdominal roseola rash, the characteristically coated tongue with the characteristic red fungiform papillae, and the characteristic odor of the breath.

**Case No. 32:**—Male, eight years of age, schoolboy. He had been swimming from once to several times a day in an irrigation ditch.

Several cases of typhoid had occurred in individuals who had frequently been swimming in the ditch and it was thought that that was the source of their infections. He presented the usual prodromal symptoms—headache, malaise, hot and cold flushes. His tongue possessed the usual characteristic coat and presented the characteristic red fungiform papillae. His breath had the characteristic odor, and the roseola rash was present on his abdomen. A blood culture, taken on the second day, was positive. The Widal test was positive on the seventh day.

Day	Hour	Temperature	Emetine
1	9 A. M. 6 P. M.	100.2° F. 101.4° F.	
2	9 A. M. 6 P. M.	101. ° F. 103. ° F.	1/40 grain
3	9 A. M. 6 P. M.	101. ° F. 104.2° F.	1/40 grain
4	9 A. M. 6 P. M.	104.4° F. 102.4° F.	1/40 grain
5	9 A. M. 6 P. M.	103. ° F. 100. ° F.	1/40 grain
6	9 A. M. 6 P. M.	100.2° F. 97.8° F.	1/40 grain
7	9 A. M. 6 P. M.	96.6° F. 96.8° F.	1/40 grain
8	9 A. M. 6 P. M.	98. ° F. 97.8° F.	
9	9 A. M. 6 P. M.	98. ° F. 98. ° F.	1/40 grain

Emetine was repeated every third day in 1/40 grain doses until after the twenty-first day. There were no complications except epistaxis, which was very mild though quite frequent. The convalescence was rapid and the recovery was complete.

**Case No. 33:**—Male, six years of age, complained of weakness, dizziness upon sitting or standing, headache and pain in the abdomen. Upon examination his tongue presented the characteristic coat, studded with the characteristic fungiform, red papillae, and his breath had the characteristic typhoid odor. His abdomen was tender and presented the characteristic roseola rash. A blood culture, taken on the second day, was positive and the Widal test on the ninth day was also positive.

From the twenty-second day on, 1/60 grain of emetine was given every fourth day until after the thirty-second day.

Convalescence was rapid and recovery was complete. The relapse in this case presented a recurrence of the characteristic coat on the tongue, red fungiform papillae and a new crop of roseola spots on the abdomen, all of which had disappeared with the apparent first recovery. There was also present the characteristic odor of the breath, but it had not been observed whether that had disappeared with the other symptoms or not. He presented a general typhoid picture. The

Day	Hour	Temperature	Emetine
1	6 P. M.	100.4° F.	
2	9 A. M. 6 P. M.	100.4° F. 100.8° F.	1/60 grain
3	9 A. M. 6 P. M.	100.8° F. 103. ° F.	1/60 grain
4	9 A. M. 6 P. M.	100.8° F. 102.8° F.	1/60 grain
5	9 A. M. 6 P. M.	100.4° F. 99. ° F.	1/60 grain
6	9 A. M. 6 P. M.	100.6° F. 97.4° F.	1/60 grain
7	9 A. M. 6 P. M.	96.8° F. 97.8° F.	1/60 grain
8	9 A. M. 6 P. M.	97. ° F. 98. ° F.	
9	9 A. M.	98.2° F.	
11	9 A. M.	98.2° F.	
17	6 P. M.	101.8° F.	1/60 grain
18	9 A. M. 6 P. M.	101.6° F. 102.4° F.	1/60 grain
19	9 A. M. 6 P. M.	101.8° F. 102.6° F.	1/60 grain
20	9 A. M. 6 P. M.	102.8° F. 101.2° F.	1/60 grain
21	9 A. M. 6 P. M.	101.8° F. 101. ° F.	1/60 grain
22	9 A. M. 6 P. M.	98.8° F. 97. ° F.	1/60 grain
23	9 A. M. 6 P. M.	98.8° F. 97.4° F.	

emetine had been discontinued from the eighth day until the fever and other symptoms of recurrence appeared.

**Case No. 14:**—Male, thirty-six years of age, contractor, was first seen on October 11 and gave history of having been associated with a working crew, of whom some had come down with typhoid which had been contracted by drinking water from a spring from which he also had been drinking.

For about two days he had experienced an increased languor, periodic headache, a bad taste, decline of appetite, hot and cold sensations, and extreme thirst.

One-sixth (1/6) grain of emetine was continued every third day until after the twenty-fourth day.

Throughout the convalescence the temperature ranged around normal; in the morning, usually a little below normal.

In addition to the fever the patient presented the roseola spots over the abdomen, had the characteristic typhoid odor of the breath, and the characteristic red, fungiform papillae studding the characteristic coat on the tongue. He also had a moderate amount of tenderness over the entire abdomen. The Widal test was not positive until the seventh day.

Day	Hour	Temperature	Emetine
Oct. 11	6 P. M.	99.6° F.	
Oct. 12	10 A. M. 5 P. M. 6 P. M.	99.6° F. 101.° F.	1/3 grain
Oct. 13	10 A. M. 6 P. M.	101.8° F. 101.8° F.	1/3 grain 1/3 grain
Oct. 14	10 A. M. 6 P. M.	101.6° F. 102.4° F.	1/3 grain
Oct. 15	10 A. M. 6 P. M.	100.° F. 103.° F.	1/3 grain
Oct. 16	10 A. M. 6 P. M.	99.4° F. 99.° F.	1/3 grain
Oct. 17	10 A. M. 6 P. M.	97.4° F. 97.4° F.	1/3 grain
Oct. 18	10 A. M. 6 P. M.	96.8° F. 98.8° F.	1/6 grain
Oct. 19	10 A. M. 6 P. M.	97.° F. 98.4° F.	1/6 grain

#### General Consideration of Emetine

A general consideration of emetine is here necessary, as well as its specific use in typhoid, as the drug has general effects when introduced into the human body. Emetine is not a fool-proof drug any more than digitalis and strychnine are, but it can be as safely used as these or any other drug if the one using it is familiar with it. I have never observed any untoward effects in its use in the treatment of typhoid fever, but I have seen them in its use in the treatment of amebic dysentery.

If emetine is not well tolerated, there is often an increased secretion of the bronchial glands. Though it is true that emetine produces such an increased secretion, it is beneficial in clearing up the bronchial condition in typhoid patients, when used in proper dosage and intolerance does not exist. In cases where the increased secretion is due to lack of tolerance, other symptoms are usually present also, such as slight paralysis of the cervical muscles and the diaphragm. Due to this paralysis, inhalation is often prolonged, the respiratory sound resembling that of a prolonged hiccup, due to nerve inhibition, which allows the epiglottis to stand nearly closed, thereby reducing the space for the

entrance of air into the trachea during the prolonged contraction of the diaphragm.

If the increased bronchial secretion is due to intolerance of the emetine, one of the most common of the other symptoms of toxemia usually present is impaired cardiac power. Tachycardia, with thready pulse, may or may not be present. The heart may or may not be dilated, but usually is. Dilatation may be so pronounced as to bring about valvular deficiency. The impaired cardiac power frequently occasions lowered blood pressure and there is a preceding or accompanying myasthenia which, if it does precede the cardiac symptoms, should be observed as a warning of an approaching cardiac myasthenia, but which should not be confused with languor incident to the infection.

#### Remarks

It has been my observation that there are a few symptoms which are so commonly present in typhoid, from the onset, that it makes the diagnosis almost positive before either the blood culture or the Widal test can be made. These symptoms are: malaise; a coated tongue of a light lemon-yellow or pearl-gray color, studded with fungiform papillae, which are not coated but characteristically red; and the odor of the breath is as characteristic of typhoid as is the odor of smallpox to that disease or of diphtheria to that disease; and there is almost invariably one to many rose spots on the abdomen. With these symptoms present, I have always felt justified in starting emetine treatment before the Widal test and blood culture were positive; and later, in every case, the diagnosis has been positive, either by the Widal test or blood culture or both.

An advantage in starting the treatment early, instead of waiting for a positive Widal test or blood culture, is that, if the emetine treatment is started the middle of the second week or later, intestinal hemorrhage usually occurs; whereas, if it is started early, it does not occur. And a still greater advantage in starting the treatment early is the saving of time, saving the patient the hazards of typhoid allowed to run its course, and the reduction of the mortality from twenty percent to practically nothing.

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#### IMAGINATION

*In the innermost recesses of their egos, few physicians are entirely free from some degree of imagination and faith, which they habitually quench and which, if cultivated, would at least broaden the sphere of their activities and make life less colorless.*

*Lack of faith and imagination has quenched achievement in many men whose intellectual attainments promised most fruitful careers.—DR. E. L. TRUDEAU.*

## Various Endocrine Extracts and Local Therapies in Alopecia\*

By Bengt Norman Bengtson, M.S., M.D., Maywood, Ill.

I HAVE attempted, in previous articles, to demonstrate an influence from pituitary therapy on certain alopecias.<sup>1</sup> The accumulated data from that study seemed to indicate that anterior hypophyseal extract stimulated the piliary system. This seemed true in some patients with alopecia totalis and areata and, to a greatly lessened degree, in alopecia prematura.

Another series of patients was gathered to evaluate the influence of other endocrine extracts and to observe possible benefits from various local remedies on the head-hair system. It was hoped, as a result, to either find agents or glandular extracts of value, or at least of synergistic aid, to the pituitary. This failing, the negative results obtained might lend support to my theoretic contention of the potential specificity of pituitary extract in selected cases of alopecia.

The work was divided into the available endocrines, by hypodermic injection (except thyroid and thyroxin) and various local agents, advertised or in popular use.

The glandular products used in this experiment were: adrenalin, eschatin, amniotin, theelin, corpus luteum, agomensin, sistominsin, ovarian substance, insulin, pitressin, pitocin, whole pituitary, sex hormone (from pregnant urine), growth hormone (anterior lobe), thyroid (enteric-coated and thyroxin), and combinations of these extracts.

The local therapies consisted of: ultraviolet rays, cantharides, sulphur, castor oil, cresol, phenol, quinine, mineral oil, olive oil, oil of almonds, gasoline, kerosene, crude petroleum, ichthylol, mercurial salts, salicylic acid, euresol, sulphur, metaphen, merthiolate, humagsalon (given orally), chloral hydrate, formic acid, acetic acid, oil of cade, pilocarpine (oral, hypodermic and local), bone marrow (beef), lanolin, benzoinated suet (plain and with sulphur), massage (brushing-manipulation, electrical vibration), various advertised nostrums, and the employment of a partial vacuum.

A wealth of clinical material was at hand, a result of publicity from prior articles. There were 187 patients. Of these, 92 were subjected to the various endocrine extracts enumerated. An attempt was made to have a male and female, afflicted with alopecia areata, A. totalis and A. prematura in each sub-group. Eighty-seven (87) were used for observations relative to the various local ther-

apies. The observations subsequently noted cover a period of sixteen months.

### Endocrine Preparations

Adrenalin was given subcutaneously, in 1 cc. doses, three times weekly. The patients complained of an apprehensive feeling after injections which, however, seemed to lessen appreciably after three weeks of therapy. There seemed to be no untoward effects from treatment, nor did there seem to be any head-hair stimulation.

Eschatin (adrenal cortex) was used in 1 cc. doses, four times weekly. There were no complaints after its administration and patients reported a feeling of increased physical efficiency after a month of injections. One alopecia totalis patient (female) developed a moderate amount of colorless, fine lanugo; the rest evidenced no piliary results.

Ovarian therapy was used in 1 cc. doses, four times weekly. Not only was there a failure of head and body hair stimulation, but Amniotin and Theelin seemed actually to increase falling hair in some of the prematures. Because of this observation, a female patient (totalis) under pituitary therapy, and apparently responding, was changed to Amniotin. Within four weeks the recently-grown hair fell out. Pituitary was again started in this patient, and within seven weeks lanugo reappeared. Another, with a serpiginous-like alopecia areata, mentioned in a previous article<sup>2</sup> responded to pituitary, but also lost the recently-grown hair under Amniotin.

Because of these suggestive findings, two female patients and one male, with hypertrichosis, were given Amniotin. The female patients failed to evidence any improvement in their condition, although the male has, to this time, seemingly lost some of his overabundance of hair supply. There were surprisingly few catamenic disturbances in the female patients—occasional decrease in the regular cycle, and moderate increase in the duration of flow in others.

Insulin was used, in twenty-unit doses, twice daily, four days weekly. The patients in this group were watched closely for untoward symptoms. All gained weight (2 to 16 pounds), developed a sense of wellbeing, and claimed to increase markedly in vigor and endurance; but no hair stimulation was noted in any of the series.

Pitressin was commenced in 4-minim doses and gradually increased to 0.5 cc. doses, five times weekly. Patients complained of nausea, an apprehensive feeling, clamminess and increased peristalsis after injections; nor did

\*This is the fourth of a series of articles on the treatment of alopecia, by Dr. Bengtson.



Fig. 1.—(Left) Prior to Endocrine Therapy; (Right) After Fifteen Months of a Combination of Follutein and Whole Pituitary.

this wear off markedly with continuation of treatment. One totalis patient (male) developed a pigmented lanugo and another (female) seemed to develop a slightly darker tint to hair that was already present prior to therapy. The remainder evidenced no results. Another group has been started to observe any pigmentary stimulation in canities from Pitressin.

Pitocin was commenced in 0.5 cc. amounts and increased to 1.0 cc. doses, five times weekly. Of the series, one male (alopecia totalis) developed long, lusterless, white hair; another (male), definite lanugo; the remainder were negative.

The sex hormone (Follutein, Squibb) was given in 1 cc. doses four times weekly. Two (one male and one female) developed lanugo; and one female (totalis), moderate, sparse, terminal hair, slightly pigmented. This was followed up by another series of 6 patients, and in this group only one (female) developed lanugo; the rest seemed unaffected.

One patient, who claimed she had been unable to become pregnant prior to this therapy, conceived three months after commencement of the injections. Even though this was thought to be a coincidence, 5 additional supposedly sterile women were given Follutein, and 3 of these, to date, became pregnant and delivered normal offspring. This seems in keeping with a statement made by Rowe<sup>1</sup>, in a study on the endocrine influence in sterility, in which he says that, of the endocrine group studied, nearly 30 percent fall in the pituitary group; more than 30 percent in the thyroid; and over 35 percent in the ovarian.

The growth hormone (anterior lobe, Squibb) was given in 1 cc. doses, five times weekly. Lanugo developed in two (females) and terminal hair (occasional) in one alopecia circumscripita patient (male). Another group of 6 was started, but there was no pilary evidence noted in the subsequent series.

One patient, aged ten, showed the following measurements, in inches; upper, 25 1/4; lower, 22%; height, 47%; span, 51; weight, 75 pounds. (Normal, aged 10, upper, 25.5 to 27.9; lower, 25.1 to 27.5; height, 51.2 to 54.9; span, 50.7 to 54.5; weight, 56.2 to 71.0 pounds.) Under growth hormone he increased, in one year's time, to: upper, 27.5; lower, 26; span, 52; height, 53.8; weight, 88 pounds. (Normal, aged 11, upper, 26.5 to 29.1; lower, 26.4 to 29.0; height, 53.4 to 57.2; span, 53.3 to 57.3; weight, 63.7 to 81.1 pounds.) Occasional pubic



Fig. 2.—The Result of One Year's Therapy with Pitocin on an Alopecia Totalis Case.

hairs developed, as well as axillary and some head-hair stimulation. This patient had a mental age of four, prior to injections; whereas, one year later, she had a mentality of nine years.

Whole Pituitary, in one group of 6 patients, developed lanugo in a premature patient (male) and occasional terminal hairs on an alopecia totalis patient (female). In a new group of 6, subsequently recruited, one female (totalis) regrew lashes on one eye-lid, scant brows and moderate terminal hair on the occiput. One male (totalis) developed a beard, excellent brows and lashes and a mustache, but only scant lanugo on the head. Another series of 12 has been started, but present observations are, in the main, disappointing. The average dose of the whole pituitary was 2 cc. four times weekly.

*Follutein and Anterior Pituitary Growth*

Hormone were used, in doses of 1 cc. of each, four times weekly. One totalis patient (male) grew slight terminal hair, and one prematura patient (male) developed slight lanugo.

*Pitocin and Whole Pituitary*, in doses of 1 cc. of each four times weekly, proved entirely disappointing.

*Pitressin and Whole Pituitary* evidenced, except for questionable lanugo in one prematura patient, no obvious results.



Fig. 3.—Sparse Pigmented Terminal Hair After Eleven Months' Treatment with Follutein.

*Follutein and Whole Pituitary*, in doses of 1 cc. of each four times weekly, grew obvious frontal terminal hair in one case of constitutional thinning (female—see Fig. 1).

*Growth Hormone and Whole Pituitary*, in doses of 1 cc. of each, four times weekly, developed long lanugo in one totalis patient (female); otherwise results in this group were disappointing.

#### Local Applications

The various local applications and nostrums were disappointing. Ultraviolet rays, in erythema doses, developed occasional lanugo and, in one areata patient (female), moderate terminal hair stimulation. The advertised nostrums used proved valueless. The irritants seemed to develop occasional lanugo and occasional terminal hair in some subjects, but the beneficial results were transitory and the piliary effects quickly reached a standstill, or the hair fell out. The one irritant that had suggestive merit was 33 percent cresol in alcohol, in twice-weekly topical applications, in certain areatas and occasional



Fig. 4.—(Left) Before Therapy with Anterior Pituitary; (Right) After Twelve Months of Therapy. (This is a Comparative Study with Anterior Pituitary, Treated Concurrently with the Series of Other Extracts.)

prematura patients. The unguents, in the cases with dry, brittle head-hair (*fragilitas cranium*), seemed to lessen hair fall, but failed to promote additional growth of either terminal hair or lanugo. The mercurial salts, Metaphen and Merthiolate, proved valueless in all cases. Animal fats gave the hair a better appearance, but failed to stimulate growth. *Massage* also increased luster and head-hair appearance and seemed to lessen hair fall, but failed except in occasional cases of dubious lanugo formation, to grow hair.

*Pilocarpine* was tried, orally, locally and hypodermically, because of various implicative references concerning its influence in hair stimulation and pigmentary value. Other than the nauseative, diaphoretic action, no effects were noted after prolonged use.

*Eurosol*, sulphur and salicylic acid, locally applied, seemed of distinct value in eradicating symptoms of pityriasis capitis and pityriasis steadoides, but failed to stimulate hair growth, other than questionable lanugo in some instances.

In another series, now in progress, the combination therapy of pituitary with massage, generous application of unguents and cautious use of irritants shows, thus far, a seemingly better percentage of head-hair progress than with pituitary alone.

#### Summary

The results of the investigative efforts with various endocrine therapies, studied in this series, proved disappointing. The only suggestive results obtained in this group were manifest from hormonal extracts of the pituitary gland, or extracts whose glandular structures mirror the state of the pituitary (adrenal cortex).\*

#### Discussion

The purpose of this experiment was to determine whether the apparent hair growth, obtained in previous series with anterior pituitary extract therapy, resulted from a possi-

ble specific action of that gland; or whether coincidence had played a major rôle; or whether an indirect influence created the results that could be duplicated by other endocrines.

It was hoped that the various ovarian extracts would exert a beneficial influence on hair growth, in view of the fact that normal healthy women are not ordinarily afflicted with alopecia prematura. This premise proved fallacious and the results observed might indicate that a potent ovarian extract could have an inhibitory effect upon hair production. This brings up the interesting speculation as to whether or not the female gonadal system, in part or in its entirety, may not be a physiologic antagonist to the pituitary.

It was also hoped that the sex hormone or the growth hormone, being extracts of the anterior pituitary lobe, would evidence greater stimulatory results than the anterior lobe alone. This was not the case in the preceding observations. The conclusions from this could be, then, that either present preparations of growth and sex hormones are not physiologically potent, or that an elusive something is lost in the process of their manufacture, or that there is something else in the anterior lobe that is responsible for the health and growth of hair.

If there be growth, gonadotropic, lactogenic, thyrotropic, diabetogenic and adrenalotropic hormones in the anterior pituitary gland,<sup>4</sup> it should not be too far fetched to hope that there might also be a hair stimulating hormone. The apparent results obtained in previous series with anterior pituitary alone, as contradistinctive to the semi-indifferent response to other endocrines tried, could indicate that plausible possibility.

Other investigators and clinicians have come to various conclusions relative to any possible merit of pituitary in alopecia.

Kohn<sup>5</sup> treated 8 prematura patients with what he termed favorable results, and concluded that pituitary is definitely indicated in early baldness and that results may be expected in three to four months of continuous therapy. The results he obtained with his group exceeded results obtained by me. At best, with a few exceptions, the only conclusion I could arrive at, with pituitary in premature alopecia, was that the results were interesting and suggestive, but not gratifying.

Lord<sup>6</sup> observed no evidence for or against pituitary in alopecia. His subjects were 14 seborrheic alopecias and 3 areatas. His seborrheic alopecia results were not diametrically dissimilar to mine, in the report to this Journal in April, 1933, on the same subject. Lord's conclusions on the value of pituitary in alopecia areata would have been intensely interesting, had he selected areata and totalis cases that had failed to respond to any other

intensive prior treatment, or had failed to evidence any spontaneous regrowths after five years.

Stanley and Hawkins<sup>7</sup> claimed 29 percent of a series of 14 prisoners developed a marked head-hair growth with anterior pituitary implantations.

Six hundred and twenty (620) physicians, representing 44 states, and 26 physicians from various countries in Europe, have corresponded with me. It is assumed that goodly percentage of these employed pituitary therapy, either experimentally or as a form of therapeusis in their various practices. Subsequent correspondence has thus far revealed: five (5) doctors observed excellent results with 7 patients; 14 physicians noted good results with 22 subjects; 10 physicians noted fair results with 20 patients; 4 doctors observed suggestive results in 4 subjects; 19 physicians saw no results in 29 patients; the secretary of the Illinois State Board of Veterinary Examiners claimed that pituitary injections stopped the habitual shedding of hair of several dogs.

These recorded reports of cases have no other substantiation than the various physicians' statements to me.

#### Conclusions

I am not blinded to the inadequacies of present anterior pituitary preparations and their presumptive specificity in pillary stimulation, nor oblivious to the fact that coincidence may have entered into the results of my data and observations. On the other hand, the failure of other endocrines in my hands and the apparent clinical results previously obtained with anterior pituitary in patients, long afflicted and, up to that time, unsuccessfully treated,<sup>8</sup> causes me to believe in the merit of its use, in selected cases.

#### An Interesting Case Report

The wife of a physician, aged 39, first noted the appearance of areata spots in 1915. Complete regrowth occurred from local therapy. No further disturbance was noted until 1923, during pregnancy. After conception, several small patches were again noted, and these did not respond, at this time, to local therapy, but the patient gradually developed alopecia totalis and the pregnancy terminated in still-birth. A second pregnancy occurred in 1928, which again resulted in a stillbirth.

Succeeding this, the catamenia became irregular, and profuse bloody discharges occurred two to three weeks before each regular anticipated date, until finally there was only a free interval of a week between periods. Treatment with pituitary and ovarian extracts (by mouth) was without avail. Cauterization of cervix, in 1929, failed to benefit. In 1930, dilatation and curettage created a slight improvement, so that the free interval from bleeding increased to two and sometimes three weeks.

On November 20, 1931, her husband consulted me, and, after several correspondence

conferences, I suggested anterior pituitary therapy.

About two months after the beginning of pituitary therapy by injection, a definite improvement was noted, in that the premenstrual bleeding was reduced to only a few days and, at times, only two to three days before the regular expected onset. There was a return, principally of eye lashes (some of them normal-colored) and eye brows in a similar manner, and refilling of certain areas of the scalp with white hair.

In December, 1932, the patient became pregnant. At that time pituitary was decreased in frequency and amount, but continued up to within ten weeks of delivery. The pregnancy resulted in the birth of a male child, normal in every respect and weighing 8 pounds 13 ounces. At this time there has been a noticeable increase in the hair on the scalp, especially from the thin, white type, which had previously been present, to a more characteristic dark color.

Grateful appreciation is hereby expressed to E. R. Squibb & Sons, of New York, and to the Eli Lilly Company, of Indianapolis, Indiana,

for their generous and unlimited supplies of glandular extracts used in these experiments and for their unfailing courtesy and cooperation.

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## Intestinal Toxicosis and the Endocrines

By J. C. Twitchell, M.D., Portland, Ore.

DURING a period of fourteen months it was my privilege to make an intensive study of 304 cases of enteroptosis, with its associated complications. A careful case record was made of the physical findings; the stomach, colon and gall-bladder were roentgenographed; the basal metabolic rate was recorded; blood pressure phase analysis, polygraph tracing for myocardial lesions, blood counts, hemoglobin estimations, urinary findings showing the degree of indicanuria and acidosis, and established tests for endocrine dysfunction were recorded.

To avoid the possibility of any variation due to personal factors, I made all tests and check-ups myself.

These brief statements are made as a basis of the following statements and conclusions which, to my mind, are logical, scientific and well substantiated by clinical data.

As Harrower once aptly remarked, "In the practice of medicine, success comes largely from the appreciation of causes rather than effects, and from the broader treatment that such added knowledge makes possible. It is just as wrong to treat endocrine symptoms and ignore their origin as it is to treat any disease symptomatically."

In the search for toxemia as a causative factor of arthritis, neuritis, rheumatism, diabetes and neurasthenia, sinuses are roentgenographed, teeth extracted, tonsils removed and appendectomy or gall-bladder drainage is

recommended. Ultimately the gastro-intestinal tract may be inspected.

To obtain definite information regarding the colon, a barium mixture is introduced by rectum with the patient in the recumbent position, well above the sigmoid flexure; the rectal tube is removed and patient turned upon the right side, to facilitate distention of the transverse and ascending colon, which will occur in a few minutes unless delayed by extensive spastic areas. The roentgenogram should be made in the erect position, to secure definite information relative to the degree and extent of spasticity and ptosis.

The average pathologic colon has the following characteristics: Ascending colon distended; cecum in the right iliac fossa, three inches below its normal position; hepatic flexure in right hypochondrium at the lower border of tenth rib. There is flexion of the distal end of the transverse colon crossing the inferior umbilical region, often resting upon a distended bladder; thence the bowel passes upwards forming the splenic flexure, which is seldom ptosed. The colon at this point is acutely flexed and often turned upon its axis; the descending colon is spastic and frequently redundant at the sigmoid flexure. An extensive area of gas is usually present at the splenic flexure and the proximal limb of the transverse colon. The greatest degree of spasticity will be observed in the transverse colon.

Anatomic changes thus described, together with biliary stasis, paresis of the walls of the colon and diminished peristalsis, may be logically considered the basis of our present study.

The residue of food ingested, normally, should be eliminated in from 18 to 22 hours. Decided delay in this important function, in the presence of pathologic factors, results in intestinal toxemia.

To determine time required for elimination in a given case is easy. The patient should be given 30 grains of powdered charcoal at a single dose at 10:00 A. M., with instructions to note the hour at which the stool first has a black discoloration, as well as the disappearance of color in subsequent defecations. Laxatives and cathartics must not be taken prior to and during the period of observation. Hard fecal masses, lodged beneath transverse valves of the colon, may have been present for weeks or even months.

Extensive dilatation of the ascending colon, associated with fecal impaction of the transverse and descending colon, is frequently the cause of referred pain in the right or left hypochondrium and also lumbar region, with the result that many false diagnoses are made of chronic appendicitis, impacted renal calculi in one of the ureters, as well as ovaritis or uterine displacement. Referred pain in the clavicular area of the left shoulder is pathognomonic of fecal obstruction of the transverse colon with obstinate constipation, possibly occlusion, requiring surgical confirmation.

In six percent of the group of cases examined, there was iliocecal valve insufficiency, with a symptomatic history that might be interpreted as typhlitis.

It is not considered practical to arrange a graph or concise classification, on account of important variations in physical findings and complications; a proper grouping would better serve the purpose.

It is not an unusual experience to observe cases in which this delay in elimination may exceed 48 to 96 hours. Alimentary toxins, of protein and bacterial origin, are absorbed by the mucosa and thus enter the portal circulation, resulting in hyperactivity of the detoxicating endocrine glands (liver, thyroid, adrenals and parathyroids). Ultimately there occurs an alteration in the production of their essential hormones, with hypo-function and dyscrimism as the resulting sequence.

The ratio of the hyperactivity of these co-ordinating glands frequently varies in individual

cases. Practical endocrinologists recognize these important factors and the necessity for pluriglandular therapy.

Associate pathological changes which develop at this time and their approximate degree of severity are easily established by appropriate tests. Indol, skatol and acidosis are frequent laboratory findings, and glycosuria is not uncommon.

**Barton's provocative indican test** is a simple, dependable index of the hepatic function in biliary stasis. One milligram of indol is given in the morning on an empty stomach. Specimens of urine are collected every four hours and examined for indican. The liver should be able to destroy this amount, and if indican appears, one may assume that hepatic detoxication is not normal.

Hyperpiesis, and ultimately hypertension, cardiac hypertrophy and altered blood pressure phase analysis are frequent clinical findings. In well advanced cases, there is an altered blood-chemistry-picture, disintegrating macrocytes, increased microcytes, diminished hemoglobin and secondary anemia. Bradycardia and hypotension accompany such cases.

Sixty-five percent of this group had a low basal metabolic rate.

Fatigue syndrome is a very common subjective complaint which, properly interpreted, means hypoadrenia. There is anorexia, nausea, vomiting and alternating diarrhea and constipation. Associated with this endocrine imbalance there is atony and intestinal stasis of hypopituitary origin.

#### Summary

Briefly, this outline of endocrine dysfunction associated with intestinal toxemia may be completed in the following general summary:

1.—The object of this clinical study is to establish etiologic factors and pathologic findings as a basis for subsequent treatment.

2.—Coloptosis, spastic colitis, biliary stasis and constipation are associated factors in intestinal toxemia.

3.—Dysfunction of coordinating endocrine glands, asthenia and hypophyenia are common complications.

4.—In the successful treatment of diabetes, arthritis, neuritis and rheumatism, normal gastro-intestinal function must be established.

5.—Many intractable skin diseases are due to this common toxic origin and endocrine dysfunction.

Rt. 1, No. 976.

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*I am well aware that, in these days, when a student must be converted into a physiologist, a physicist, a chemist, a biologist, a pharmacologist and an electrician, there is no time to make a physician of him.—SIR ANDREW MACPHERSON, Montreal, Can.*

# PHYSICAL THERAPY AND RADIOLOGY

## ASSOCIATE EDITORS

### FOR PHYSICAL THERAPY

FRANK THOMAS WOODBURY, B.A., M.D.  
JOSEPH E. G. WADDINGTON, M.D., C.M.

### FOR RADILOGY

HENRY SCHMITZ, M.D., F.A.C.S., F.A.C.R.  
WILBUR H. GILMORE, M.D.

## Fact and Fiction

**A**S THE SUN of knowledge slowly rises, dim objects take form and outline, finally assuming tint and shade. The twilight misconceptions, guesses and fears give place to facts, which oftentimes prove far different from our expectations.

In this twilight zone the earnest seeker gropes his way and the charlatan, capitalizing ignorance and mystery, plies his lucrative racket.

Under such circumstances it is difficult, at times, to tell true from false, and many otherwise estimable persons have not only suffered from illusions, but have created systematized delusions which they have espoused with much plausibility and heat. Time having brought more light upon the subject, the miasma dispersed, leaving the fact exposed for its proper evaluation.

The bag of many simples, with which the "yarb woman" cures dropsy, yields one weed, foxglove, in which, by further search, the active principle, digitalin, is discovered as the essential remedy. The miraculous healing spring discloses its virtues, not as the action of the tutelary diety, but as chemicals, radioactivity and heat.

The sun, from mankind's earliest conceptions of his environment, has been held as the source of life and the god of healing. Now we sort out his prescription into spectrums which are administered, even by artificial means, for specific effects.

In the same way, that age-old idea of the human personality radiating beneficent or malignant influences to others, which has given rise to witches, the evil eye, malicious

animal magnetism and excommunication, on the one hand, and to healing by touching, blessing or the recitation of formulae by special persons, on the other, is now under scientific enquiry by benefit of suitable scientific apparatus.

The earnest physician must maintain an open mind, while exercising a proper curiosity and a power of rigid self criticism. The profession has no use for either the conservative or the radical.

As it is unwilling to accept the *ipse dixit* of authority without further corroborative testimony, so also should it be averse to pooh-pooping, offhand, bizarre ideas which are susceptible of investigation. The fantastic pretensions of Mesmer cannot destroy the electromagnetic spectrum, as proven by Clerk Maxwell, nor do they vitiate the importance of hypnotism and psychotherapy. Electromagnetic belts and electromedical rings, Perkin's tractors and Graham's "celestial bed" do not in any way controvert the fundamental truths of electro-medical practice. The erroneous assumptions of Abrams or George Starr White cannot nullify the facts as to the electric and electromagnetic properties of living cells, both animal and vegetable, nor the use of electromagnetic energy from any part of the spectrum in the diagnosis and treatment of disease.

As we do not accept the foolishness of quackery nor tolerate its venal and unhumanitarian practices, so also we do not throw out the baby with the bath by denying the essential fact or idea which the quack may have capitalized, if it is good.

F. T. W.

# Sutureless Repair of Cervical Lacerations

By J. U. Giesy, M.D., Salt Lake City, Utah

THE object of this paper is to present a method by which cervical lacerations may be repaired without the scalpel or suture, and the patient spared loss of time from the performance of normal duties during convalescence.

This, as a matter of course, means that cases formerly hospitalized for operation, are converted into ambulant cases from the beginning, and that the procedure is wholly within the scope of an out-patient or office technic.

No surgeon or gynecologist of today but will subscribe to both the actual discomforts and the potential dangers of cervical lacerations, with their sequelae of endocervical infection, purulent discharges and erosions, and possible malignant disease as a final stage.

In a surprising percentage, however, these conditions are neglected or treated in a haphazard fashion, because of a number of reasons, among which are the expense of competent attention, a dread of or an inability to pay for hospitalization, a fear of anesthesia, or plain dumbly enduring ignorance on the part of the victim, aided and abetted by the freely given but rarely effective advice of women "friends," which she has admittedly "tried."

If, then, it be possible to gain relief from such a pathologic impasse, without hospital expense, without an anesthetic, without a period of post-operative confinement in bed, one can hardly fail to agree that such a method constitutes a considerable therapeutic advance.

Let us, therefore, first analyze the condition itself, and then describe the means by which an ambulant healing of such tears of the uterine cervix may be brought about.

## Pathology

Primarily the cervix is lacerated by trauma—eviscerated, as it were, by a stretching, crushing, devitalizing force. Such tissue insult means tissue reaction, unless actual tissue death result. In the subsequent effort which nature makes to close the gap in the traumatized tissues, a fibrotic reaction follows. In the end we see a furrow more or less deep, on one or both sides of the external os, with walls poorly epithelialized and a line of scar tissue marking the bottom limits of the sulcus. And this line of fibrotic tissue, at the bottom angle of the laceration, is the crux of the entire problem of repair. The scar tissue is actually nothing more than a pebble caught in the angle of a hinge, by which the leaves of the hinge are held apart beyond any possibility of closing!

And so we have an open door, of course. The gap of the laceration means an undue opening of the external os, a break in the continuity of the cervical canal or, in other words, a damage to the protective mechanism existent in these structures under normal conditions. It is a gateway set wide to infectious invasion, which after a time occurs. Following such invasion the cervical canal becomes a culture tube for bacterial growth, and the resulting discharges are followed by cervical erosion and an infection of cervical crypts, with a sprouting of abnormal granulation tissue, bathed in the pathologic secretions from above.

Pathogenic bacteria rapidly penetrate the mucosa of the female genital tract and establish themselves in the sub-mucosa; and any method which does not destroy them *in situ*, will fail of a curative effect.

Our problem then is twofold: to eliminate the infecting agent, and to remove the fibrotic scar at the bottom of the laceration, which literally holds the walls of the tear apart. For unless these walls can be freshened and brought into contact, closing of the laceration cannot result. This is the classic and accepted method: The scar is cut out, the walls are freshened and sutured together. I gain the result without either suture or knife.

## Technic

With the patient lying upon the table, a speculum is inserted and the vagina mopped out with tincture of green soap or Mercurochrome or Merthiolate. The cervical canal is then electrically coagulated to a depth sufficient to insure sterilization of infection, as judged by the apparent condition. I employ a Cherry electrode, inserting the point to just short of the internal os and with the current controlled by a foot switch, effecting the coagulation in a number of short contacts, to avoid any marked degree of discomfort from too-long-continued heat.

With the canal cared for in this manner, the laceration is next attacked. With either a coagulating electrode attached to the same high-frequency surgical unit employed to activate the intracervical electrode, and an indifferent plate under the patient's buttocks (or, if preferred, with an endotherm knife, activated by a suitable unit), the scar at the bottom of the laceration is destroyed *in situ*. This takes the "pebble" out of the "hinge" and leaves nothing more to be done beyond freshening the lateral walls. This freshening is done by a light coagulation, with a high-frequency electrode, until all pathologic scar tissue and all abnormal granulations are de-

stroyed, thereby insuring a complete surface desquamation of both walls of the laceration. When this occurs, two actively healing surfaces are left, and since the fibrous block is gone from the bottom of the sulcus, the side walls close in and adhere, and the line of fusion epithelializes in normal fashion.

Any cystic points appearing on the cervix are punctured with a coagulating tip and destroyed. Patients are instructed to go about their normal duties, use a mild detergent douche once daily after the first twenty-four hours, and report for examination in three weeks.

Full results can be expected in the average case in from four to six weeks, depending upon the initial condition. During the first few days there will be an increased discharge, caused by the breaking down of the tissues destroyed during the operation, and the patient should be warned that this will happen. Slight abdominal symptoms may exist for the first few hours, but very seldom will they be sufficient to require any attention or even keep the patient off her feet.

Results are surprisingly good—so good, indeed, that it is nothing unusual to have a multipara, with reasonably deep lacerations, report after a few weeks with a cervix approximating a nulliparous type. In others the result resembles that obtained by the classic method.

During the past three months a series of these operations has been performed at the Salt Lake County General Hospital, as a part of the out-patient gynecologic service. In these cases the cervical laceration was either a part of the condition bringing the patient for treatment, or the sole complaint from which relief was sought.

A partial list of cases in which the cervical condition was the chief complaint, is appended.

#### Case Reports

**Case No. 26293:** Aged 27; two children; first delivery by forceps; showed endocervicitis and lacerations. Aug. 8, 1933, above technic employed. Sept. 9, condition improved but not entirely satisfactory. Sept. 26, technic repeated very lightly. Oct. 10, discharged as cured.

**Case No. 24957:** Aged 53; widow; 15 children; bilateral lacerations, endocervicitis, erosions. Aug. 22, 1933, above technic to cervix

and lacerations. Sept. 12, complete healing. Patient says she is "feeling good." Discharged.

**Case No. 30650:** Age 37, married; 5 children; endocervicitis, erosions, bilateral lacerations. Cervical amputation had been advised. Aug. 8, 1933, above technic to all lesions of the cervix. Oct. 3, apparently well; no discharge; lacerations closed.

**Case No. 16073:** Age 25; married; 6 children; bilateral lacerations; uterus large and boggy (subinvolved); patient exceedingly neurotic. Aug. 8, 1933, above technic to cervix and lacerations. Sept. 19, complains of much abdominal pain; cervix still discharging; lacerations not as yet healed; hospitalization advised, but refused. Patient has not returned.

**Case No. 36286:** Age 30; married; 1 child; cervix large and eroded; bilateral lacerations. Aug. 8, 1933, above technic used. Sept. 19, well.

**Case No. 30234:** Aged 40; married; 3 children; unilateral laceration; endocervicitis. Aug. 29, 1933, above technic used. Sept. 19, progress good. Oct. 10, not entirely healed, but patient greatly improved.

**Case No. 18374:** Age 24; married; 3 para; Wassermann test, 4 plus, 1-19-32; negative 9-30-33. Dec. 19, 1932, electro-cauterization of the cervix for erosions. Dec. 30, cervix improved. May 8, 1933, cervix enlarged and indurated. May 22, cervical smear shows many diplococci. July 3, cervical smear shows many pus cells. Aug. 28, above technic to bilateral lacerations and endocervix. Sept. 22, great improvement; lacerations healing.

**Case No. 35634:** Aged 28; married; 3 para; endocervicitis, erosions and lacerations; adnexa negative. Aug. 29, 1933, above technic applied to lesions. Sept. 26, well.

**Case No. 24408:** Aged 35; married; 5 para; endocervicitis; badly lacerated cervix. Aug. 8, 1933, above technic used. Oct. 3, complete healing of lacerations; os resembles virgin condition.

**Case No. 17988:** Aged 32; married; 7 para; bilateral lacerations; endocervicitis; erosions; infected crypts. Oct. 10, 1933, above technic used. Final results not as yet developed, but progress apparently good.

**Case No. 24704:** Aged 41; divorced; 2 para; bilateral lacerations; endocervicitis and erosions. Sept. 19, 1933, above technic used. Oct. 3, healing well advanced; promise of a satisfactory result.

Medical Arts Bldg.

#### REAL ESTATE AND REVOLUTION

*As real estate, in a way, is the basis of most wealth, the wiping out of this form of property would carry with it the wiping out of all other forms. In this manner, a violent revolution, such as took place in Russia, would not be needed to place all property in the hands of the government. While the system of destroying property through taxation may appear on the face of things as less painful than the Russian system, one is forced to wonder if it would not be better to fight it out on other lines.—COMMITTEE ON AMERICAN EDUCATION.*

## NOTES AND ABSTRACTS

## Research Work with X-Ray Voltages Above 500,000\*

IT IS NOW well established that radiation plus surgery (or radiation alone) are the best weapons to destroy cancer cells.

For the past ten years there has been no appreciable change in x-ray therapeutic apparatus, the best obtainable up to the present being a possible peak of 200,000 volts.

Following therapeutic experiments, with the new x-ray tube installed at the California Institute of Technology, through which 5 milliamperes of current operated successfully at 750,000 volts, the new high-voltage Kellogg Laboratory was established and is now in operation. In this laboratory the radiologic factors are: Tube voltage, 750,000; 4 milliamperes; 6 mm. steel and 1 mm. aluminum filter; skin-target distance, about 70 cm. The experimental treatment research work is under the supervision of an advisory medical board of seven California physicians.

Only such patients are accepted as are found to be unfit for surgery and resistant to the usual type of x-ray treatment. More than 200 patients have now been submitted to the new radiation and no startling variations from the former routine have been noted. Skin erythema and tanning occur in approximately the same ratio as with lower voltages. Whether or not this ratio holds true below the skin surface is problematic. All in all, no gross specific differences have been elicited. Clinical reactions are a little more difficult to interpret.

After two full years' work, it appears to the writer that patients who reach a point of stasis in their clinical response to x-ray treatment at 200 K.V. usually improve when they are submitted to 500 K.V. or higher. The experimental treatment research campaign will be prosecuted steadily and its outcome will be of momentous importance to the clinical radiologist.

Apparatus of this extreme voltage must be limited to institutions in which the best engineering skill is available, with physicists in control of operations, so that electrical and x-ray dangers are reduced to the lowest possible minimum. Should this super-short wave x-ray therapy ultimately be found superior to anything we have had in the past, arrangements for its more universal use must be considered.

ALBERT SOILAND, M.D.

Los Angeles, Calif.

\**Radiology*, Feb., 1933.

## Use of "Cold Quartz" Radiations in General Practice\*

THE "cold-quartz" generator, judging from the results of investigations by ourselves and others, is of definite value in germicidal action. A good deal of careful work needs to be done, with careful analysis on the completion of properly evaluated findings.

The advantages of this type of generator may be stated as follows: It is within the wave-length of high germicidal action. It burns at a low temperature, with application possibilities directly to the skin. The orificial applicator gives emission from its entire surface area. The grid lamp may be moved, so that perpendicular ray exposure is possible at all times. Little erythema is produced for the radiations produced. There is a constancy of intensity. The handling and use are safe and convenient, owing to its light weight and detachability. There is usually a relatively low pigmentation. There appears to be little of the red of the visible spectrum. It may be operated while in motion. Lastly, the temperature at which it burns allows any design of applicator for insertion into body cavities.

HAROLD W. F. BEHNEMAN, M.S., M.D.  
San Francisco, Calif.

## Uses of Infrared and Luminous Rays

THE infrared and luminous rays are of great value in therapeutics. Heat, applied in the form of radiant energy, is one of the doctor's most valuable weapons; it takes a high place among the available means of alleviating pain and curing disease. The powerful and lasting hyperemia which these rays produce, the deep penetration of the light rays and especially the cleanliness of their application, have largely superseded compresses, fomentations, poultices, etc.—DR. A. FURNESS, in *Brit. J. Physical Med.*, Oct., 1932.

## Ultraviolet Irradiation in the Treatment of Erysipelas

IN the treatment of erysipelas and erysipeloid, I feel that it is an established fact that ultraviolet irradiations give by far the best results. The use of any other indicated remedy concurrently is not precluded.—DR. H. D. HOLMAN, of Mason City, Iowa, in *Arch. Physic. Therap., X-Ray, Radium*, Aug. 1932.

\**Arch. Phys. Therap., X-Ray, Radium*, Feb., 1933.

# STOMATOLOGY

OFFICIAL ORGAN OF THE  
AMERICAN SOCIETY OF STOMATOLOGISTS

ASSOCIATE EDITOR

ALFRED J. ASCIS, ScB., M.A., D.D.S.

## The Commission on Medical Education and the Dental Educational Council

THE historian of the American dental profession, dealing with the efforts to bring dentistry as a medical specialty within the fold of scientific medicine, will unquestionably consider highly important the statement by Dean Rappleye, Director of the Commission on Medical Education, in understanding dentistry's educational evolution, that the idea of "subjugation" of the dental profession or of dental education has never occurred to the commission, but that the two professions should correlate their programs.\*

The significance of this statement may be seen in the implicit affirmation by medicine of a principle, enunciated in 1926 by Prof. Wm. J. Gies, in his comprehensive report on dental education, known as "The Carnegie Foundation Bulletin Number 19," to the effect that dentistry in America retains its status as an independent profession. Although no direct allusion is made to the Foundation's study, it remains to date the leading authority of the dominant dental educational philosophy in America today.

The Commission of the American Medical Association sets out with the premise that "dentistry has its roots in the same biologic soil that nourishes medicine," and considers the problem to be a matter of "coordinating" their educational programs. In a more recent communication, Dr. Rappleye informs us that the commission on Medical Education did not consider the various *proposed forms* of dental education, inasmuch as it did not make a special study of the problem.

In its *Final Report*, issued in December, 1932, pages 216 and 217 are devoted to "den-

tistry." It refers to three programs for the future educational development of dentistry, now known as the: (1) Stomatologic (Asgis); (2) Autonomous (Gies); and (3) Level Technician (Owre) plans. The Commission apparently does not approve of the first program because of the long training, which may be out of proportion to the requirements of practice. It is not in favor of the second program because its "educational base is too narrow for the erection of a real specialty in medicine." It does believe, however, that "dentistry should be developed under medical education."

The interpretation, by professional groups, that this statement implies an endorsement of the "level technician" scheme has called forth widespread protests on the Commission's stand, by stomatologists and autonomists alike, especially the Dental Educational Council. The sky is now made clear by Dean Rappleye's explanation and let us hope that the ghost of the level-technician scheme, expounded by the former Dean of the Columbia Dental School, will never rise again.

Thus, Dean Rappleye's explanation has not only clarified the Commission's attitude toward dentistry, but brought also to a focal point the positions of the two schools of thought in dentistry. Progressive autonomists and stomatologists are agreed that dentistry or stomatology is a scientific branch of medicine. They are also agreed that dentistry should retain its administrative independence. They disagree on which is the better educational method for the future training of the dentist to qualify him for the practice of this specialty of medicine on a higher plane.

\**Journ. Dent. Research*, Oct., 1933.

For the past two years, a special survey of this problem is being conducted by the Curriculum Committee of the American Association of Dental Schools, supported by a grant from the Carnegie Corporation. The approach seems so promising, that it would not be expecting too much if the final results would prove satisfactory to stomatologists and progressive autonomists. Indications are

that the ultra-conservative autonomist, who cannot conceive of dentistry as a medical specialty at all, will disappear before the close of this decade. We hope that the various factions in medicine and dentistry will henceforth pool their energies to constructively further clinical dentistry and stomatology.

A.J.A.

## DIAGNOSTIC AND THERAPEUTIC NOTES

### Oral Conditions as Aids in Diagnosis of Systemic Diseases\*

THE subjective symptoms of oral conditions are pain, bleeding and consciousness of a growth or swelling.

**Pain:** A sore, burning tongue and mouth are seen in pernicious anemia. A sore tongue is also seen in sprue. Herpetic ulcers (canker sores) are frequently associated with digestive disorders, and are also seen in pernicious anemia, avitaminosis and oral pemphigus. Acute gingivitis may occur in pernicious anemia, the leukemias, agranulocytosis, diabetes, avitaminosis, drug absorption, pregnancy, and endocrine disturbances. The majority of loose painful teeth is due to acute periodontitis. Such a tooth, however, may indicate neoplastic invasion or acute lymphatic leukemia.

**Bleeding from the Gums and Oral Mucosa:** The common cause of bleeding gums is simple gingivitis, due to tartar and lack of oral hygiene. Such bleeding is also seen occasionally during menstruation and in early pregnancy. A sudden, steady oozing from the gums and oral mucous membrane, that is alarming and may be accompanied by nosebleed and petechial skin hemorrhages, is met with in idiopathic purpura, acute leukemia and severe avitaminosis.

**Consciousness of a Growth or Swelling:** In all cases, histologic examination is needed of a growth removed from the gums or oral mucosa. Lymphoid leukemia at times may result in leukemic deposits in the gums, giving rise to a circumscribed growth or to hypertrophic gingivitis. A giant-cell tumor may be the osteoclastoma of generalized osteitis fibrosa, but may be incorrectly diagnosed as a giant-cell epulis. A central lesion in the bone, expanding the plates, may be a simple cyst or some such neoplasm as an adamantinoma, giant-cell tumor, myeloma, or an oral expression of osteitis fibrosa cystica or of the

rarer conditions of Gaucher's disease or Niemann's disease. I have seen two oral gummas, both atypical; one resembled a sub-acute alveolar abscess, the other a common gumboil. Oral tuberculosis may occur as an indurated ulcer or a tuberculoma.

Other manifestations of systemic disorder, which may occur only in the mouth, are lichen planus, leukokeratosis, the geographic tongue, and gum and mucosal pigmentation (which may indicate bismuth or lead poisoning, etc.). Diffuse brown discoloration of the oral mucosa, coupled with bronzing of the skin, is seen in Addison's disease.

The commonest responsible factors in foul breath are oral filth, digestive disorders and nasal and sinus disease.

LESTER R. CAHN, D.D.S.

New York City.

### Research in Subgingival Therapy\*

CRYING need of the day is for a system of diagnosis and treatment that will be universally applicable and at the same time definitely connect the infections of the gingival trench with other involvements. The prevalence of subgingival disease is such that an effective method of control should be at the disposal of every member of the health service.

Subgingival therapy rests on the use of a specific or near-specific, introduced to the point of incubation for the causative organism, without an appreciable dilution of the medicament used. The medicine is introduced by the use of a suitable rubber cup attached to a contra-angle porte polisher or a hemostat. The cup is filled with the agent, contact is established with the tooth and the edge of the rubber is introduced under the free margin of the gum by a pumping motion, adhesion resulting, which enables the applicator to be carried into the deepest pocket and the

\*N. Y. State J. M., Sept. 15, 1933.

\*J. Am. Dent. Assn., March, 1930.

drug expelled. This method may be used for obtaining smears and cultures, as well as permitting the operator to convey the specific or near-specific under the gingiva to the point where actual destruction of the osseous or other structure is going on, or where a focus of infection is being established.

A. B. VASTINE, D.D.S.

Dansville, Pa.

### The Role of Surgery in Periodontia\*

HERE are three different technics for the elimination of the gingival trench surgically: First, the dissection of flap method, which can be further subdivided into the conservative and radical; second, the resection method, which can be subdivided into different technics, according to the manner of approach—according to the Ward method or the Black method; and third, the elimination of the gingival trench which is beyond either one of these two methods, by extraction of the teeth themselves, known as an alveolectomy. This, of course, is the most radical of all. Any one of the above technics may be subdivided into two classifications: office and hospital technic.

The conservative flap method, as advocated by Dr. Olin Kirkland, of Montgomery, Alabama, is indicated, first, in the anterior regions, on account of esthetics; second, in individual areas; and third, in so-called vertical types of alveolar destruction.

Another technic, possibly older, has been used by Zentler, of New York, and others, where vertical as well as interproximal incisions are made along the labial or buccal side, as well as lingual where indicated, exposing the cortical layer of the alveolar process, sometimes as far down as the apices of the roots of the teeth.

I wish to take this opportunity to condemn the promiscuous grinding of teeth before any work has been done on the hyperemic condition of the periodental membrane as a most radical procedure, as loss of valuable tooth structure can never be restored by nature as can the soft tissues, as has been proven by experience.

General anesthetics have been used for this kind of work, but inasmuch as there is considerable hemorrhage with general anesthetics, we have found in our hands that the ideal method of handling is the hospitalization of the case, whereby the patient can so be prepared, by the use of pre-operative medication, that he can be thoroughly relaxed, which will eliminate the above-mentioned reactions. In hospitalizing patients, one of the decided advantages is controlled post-operative care.

FRANK KAISER, D.D.S.

Los Angeles, California.

\**Pacific Dent. Gas. and J.*, June, 1933.

### BOOKS

#### Mead: Oral Surgery

**O**RAL SURGERY. By Dr. Sterling V. Mead, Professor of Oral Surgery and Disease of the Mouth, and Director of Research, Georgetown University Dental School; Professor of Diseases of the Mouth, Georgetown University Medical School; Oral Surgeon of Georgetown Hospital; Chief of Dental Service, Providence Hospital; etc. With 403 illustrations. St. Louis: The C. V. Mosby Company. 1933. Price: \$12.50.

Dr. Mead's book on oral surgery, a companion to the same author's work on "Diseases of the Mouth," is a worth while contribution to our literature on surgical therapy. It presents the methods and technics employed by the author in treating diseases of the mouth, mandible, maxillae and adjacent structures, and reflects the progressive trend of our times in clinical dentistry and stomatology.

This text should be welcomed by the dental profession, for it breaks down the traditional dividing lines between the artificially separated fields of the oral surgeon and the so-called general dentist. Sufficient clinical material and scientific information is presented to enable the average dentist to solve his surgical problems by following the descriptive text and the illustrated details. It is a practical reference book for the dental student and practitioner.

The book is well printed, profusely illustrated and adequately treats of diseases of the maxillary sinus, salivary glands, lips, tongue and other organs of the oral cavity. Characteristic is the opening chapter devoted to "diagnosis," reflecting a growing interest in a long neglected oral subject. On the whole, Dr. Mead's book is recommended as a useful guide to clinical dentistry and stomatology.

A. J. A.

### NEWS

#### Stomatologic Society Dues

**A**CTIVE members of the American Society of Stomatologists will please send in at once their 1934 dues to Dr. J. Oliver Ericsson, Treasurer of the A. S. S., Norristown, Pa. The postal requirements make it necessary for the Society to comply with the payment of minimum requirements for all those members who wish to receive the journal. The Society appeals to all members to cooperate in order that the Journal may come to them without interruption.

# A LIVING FOR THE DOCTOR

## Self-Sufficiency and Success

THE fact that, in a more or less civilized society, all men are, in a vast variety of ways, dependent upon each other, is so obvious, if one stops to think about it, that it needs no emphasis. In fact, it is so generally accepted, even without thinking, that a great many people tend to assume that they are utterly dependent, and cease to do for themselves many things that they would be the better for doing.

In few fields of activity is this tendency more widespread—or more disastrous—than it is in the medical profession. Our professional forefathers did for themselves and for their patients everything that was to be done, and, as a result, they *knew about human beings*, both sick and well, in a way that is exceedingly rare in this generation.

Of course, in some cases, there are certain laboratory tests which need to be made, and certain treatments to be given, that require equipment which it would be a foolish extravagance for most general clinicians to purchase; but these cases are relatively very rare, in the practice of those physicians who are in the habit of eliciting and *recording* complete and detailed histories and of using their five senses and a few pieces of relatively inexpensive apparatus to the greatest possible extent, *upon every patient they see*.

Moreover, by reason of this tendency to lean upon others, and even to accept diagnoses made by laboratory workers—sometimes by non-medical technicians—who have never seen the patient, many physicians have lost, not merely their diagnostic acumen and their feeling of confidence in themselves, but also the number of actual dollars which would mean the difference between comfortable living and mere subsistence.

Every doctor has, of course, a stethoscope and a clinical thermometer, but many do not use these on every patient, as they *should*, for their own sakes, if not for the actual and direct benefit of the sick one presently under observation. They do not even use, as a routine, their eyes, to observe the condition of the skin, hair, nails, visible mucous mem-

branes and general configuration of all patients; their ears to note the tones of the voice; their noses to discover the odors of the breath and the body secretions; and their fingers in the good, old, reliable procedures of palpation and percussion. The regular and consistent use of these universally available expedients would clear up a high percentage of diagnoses.

Today, however, more is expected of the physician than our parents looked for, and every physician should have, and *use every day*, a microscope, a sphygmomanometer, a simple uranalysis set, a proctoscope, a vaginal speculum, a nasal speculum and, probably, an ophthalmoscope. With these, properly and universally used, an adequate working diagnosis could be made, *while the patient is in the office*, in from seventy-five to ninety percent of the cases in the day's work, and *something could be done for them on the spot*—which is what the patient comes to the doctor seeking. Moreover, the physician could collect a moderate fee for these services, and the patient, not having to spend from ten to fifty dollars elsewhere, for largely unnecessary laboratory examinations, would have something left to pay his regular medical attendant.

Nor is the importance of work like this wholly, or even chiefly, financial. The clinician who, *himself*, takes the history, makes a complete physical examination and carries out such basic laboratory studies as should be undertaken in all cases, will have a far clearer and more intimate knowledge of his patient's condition than could be obtained from reading a whole sheaf of reports of work done by others. It should go without saying that just as carefully prepared and complete records of these office studies should be made, as those furnished by outside laboratories.

Diagnosis is the basis of all treatment—not pasting the name of a disease upon a patient, but obtaining a clear understanding of his anatomic, physiologic and psychic condition—but, for the clinician, it is certainly not an end in itself. If it does not lead to the formulation of a definite and rational therapeutic program,

it is a foolish, academic and senseless waste of the patient's time and money.

There are some who declare that they have not the time to study every patient in this thorough way; but, where this is not a rationalization of or an alibi for laziness, it shows a lamentable misunderstanding of the function of a healer. Remunerative medical *businesses*, conducted in a scientifically slipshod fashion, have been built upon showmanship and publicity, but the only sound way to lay a foundation for the type of medical practice which results, not merely in an ample living, but in that sense of good work well done, which is, perhaps, the most lasting

satisfaction for a man, is to give every patient the best that is in one, and to undertake the management of no more cases than can be so handled. This sort of work will build an enviable reputation.

Let the clinician who would gain from his practice the highest measure of professional success and human satisfaction, along with adequate remuneration for his efforts, strive to so equip himself, physically, mentally and spiritually, that he comes as near as is possible, under present conditions, to being a self-starting, self-sustaining and fully-functioning unit of the body politic.

G. B. L.

## NOTES AND ABSTRACTS

### Medico-Legal Notes

#### The Medical Expert

THE medical expert is generally supposed to have peculiar knowledge to an unusual degree upon the subject under inquiry, as the result of his experience and study. But it is a fact that the courts have permitted men to testify as experts who, by their own admission, have had little experience, have done little study, and have acquired no great store of "peculiar knowledge" on the subject on which they were testifying as experts.

The courts are not alone to blame. How is the court to know whether a doctor on the stand is or is not to be considered an expert? As a result of this uncertain situation, it has been left to the doctor himself to furnish the evidence of his expert qualifications, and it is for the court and the jury to appraise this evidence and accept his testimony for what it is worth.

As an example of the wide latitude which the courts have allowed in this matter, there is the case of the Alabama physician who had practiced law for sixteen years after one year's practice of medicine, and who was permitted to testify as a medical expert. On what grounds this permission was given, it is difficult to surmise. In Illinois, in a case involving an injury to the spine, a chiropractor was allowed to testify as an expert. And in New York, the highest court held that "if a man be in reality an expert upon any given subject belonging to the domain of medicine, his opinion may be received by the court, although he has not a licence to practice medicine."

And finally, in this same State, a physician aged 26 years, in practice three years, who was not an eye specialist and had never operated on the ethmoid (or anything else, apparently), was permitted by the court to testify that the improper use of an instrument by the defendant physician had caused blindness in the plaintiff. The witness, according to his own admission, was a "professional testifier," as a side-line to his medical practice.

*Comment:* It is such incidents as these that lead to the frequent criticism of medical experts and their testimony. The crux of the matter lies in the fact that no physician should attempt to testify as an expert unless he has had either special training or extensive experience in the subject at issue, and should be prepared to express a definite and positive opinion based on such training and experience, which will enable the court and the jury to determine whether or not his testimony is to be accepted as that of an expert.

#### Traffic Regulations and the Physician

Has the doctor the right to violate traffic regulations in his haste to respond to a professional call? This question has been brought up in the courts from time to time, and the general conclusion is that he has no such right. The call may be extremely urgent; nevertheless, to permit the doctor to violate the regulations would be to jeopardize the safety and even the health of pedestrians and other motorists whose rights are no less than his. The point of the matter is that the traffic regulations are law and the doctor has no special right to violate any law. Many a

physician has learned, to his sorrow, that excessive anxiety to reach his patient has, not only failed to bring him there as quickly as he had wished, but that it has caused him actual delay while receiving his summons and more delay in traffic court, with a possible fine to boot.

#### Is the Physician Liable for an Error of Judgment?

This question arises in almost every suit for malpractice. The borderline between actual negligence, on one hand, and an error of judgment, on the other, is not always sharply drawn. Broadly speaking, the physician is not usually held liable when it can be shown that only his judgment was at fault, but he can be held liable for acts of commission or omission in the conduct of his case which show a lack of the skill and the care which would be expected of physicians practicing in his locality. The law does not demand or expect that every physician be a specialist or as skillful as a specialist, nor does it expect him to employ such measures as, in the opinion of others, would be better than those which he conscientiously employed.

In brief, the physician is expected to be a fairly skillful and competent craftsman and he should practice his craft honestly and conscientiously. The law will then protect him. The courts generally do not presume negligence; the fact of negligence must be proved, and it must be arrived at only through the testimony of medical experts. Laymen cannot testify to medical negligence. It is, therefore, the duty of the physician to keep himself abreast of the times in his reading and study, in order that his general competence and knowledge of medicine may not be questioned on trial.

#### The Physician as Employee or Independent Agent or Contractor

It is decidedly to the advantage of the physician, when he engages to render medical services on behalf of a firm or corporation, to do so in the capacity of an employee and not as an independent agent or contractor. The reason is obvious. As an independent contractor, he is charged by law with full responsibility for the results of his treatment of the corporation's employees; on the other hand, as the Company's employee, he is free from all personal liability for damages arising from his professional duties on behalf of his employer. The employer assumes that responsibility.

There is another advantage. In any question arising with the Company, involving financial matters, the physician is in a stronger position as a salaried employee in the collection of his salary, than he would be as an independent contractor, in a claim for

compensation for services rendered. This matter is of great importance to physicians engaged in industrial medicine.

Please don't let me miss a number. I don't think I would care to get along without CLINICAL MEDICINE AND SURGERY.—R.B.S., M.D., S. Car.

Look for THE LEISURE HOUR among the advertising pages at the back.

#### How to Incorporate a Medical Group\*

**A**N outstanding advantage of the corporate form of group practice is that it eliminates the personal responsibility of the physician for alleged acts of negligence. The corporation must be sued.

A corporation furnishes the capital and the physical equipment required to practice medicine and surgery and leaves the acts of practicing to the licensed physicians working in its behalf.

A medical group may incorporate under the laws of the State where it intends to practice or under the laws of some other State. In the latter case it would be a foreign corporation.

At least three persons are required by most States to form a corporation. In the case of a medical corporation it is not necessary that all or any of the incorporators be physicians. The by-laws are drawn up and sent to the State authorities for approval and issuance of a charter.

Although a corporation cannot legally practice medicine as such, the fundamental relationship existing between principal and agent, as known in law, applies. Corporations have the right to appoint agents to act lawfully for them in their behalf. Although the corporation formed by a group of physicians may not lawfully be able to practice medicine, the corporation has the right to appoint as many licensed physicians as it desires to act as its agents to practice for the corporation and in its behalf. Furthermore, these same physician agents, who may agree to practice for and in behalf of the corporation, have the right to appoint the corporation to act for themselves in handling their financial affairs.

Of course physicians acting for a corporation must be licensed in the state in which they practice. Otherwise the general laws governing medical corporations are those applying to corporations in general.

C. SCHEFFEL, M.D.

# THE SEMINAR

**L** (NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.)

**R**

## Problem No. 12 (Surgical ?), 1933

Presented by Dr. Guy S. Van Alstyne, Chicago

(See CLIN. MED. & SURG., Dec., 1933, p. 655)

**R**ECAPITULATION: A woman of 26 years, whose husband had gonorrhea, developed a yellowish vaginal discharge, of which no smears were made. Ten days later she complained of pain in the lower abdomen and her temperature was 100° F. Bilateral, tender masses were found in the pelvis. The following day she was worse and the temperature was 103.5° F. Her abdomen was rounded, moderately tense and tender, and she vomited. On entering the hospital, in the afternoon, laboratory tests were ordered, but were deferred until morning. At 7:00 P. M. she began to bleed profusely from the bowels; and at 8:00 P. M. she died.

**R**equirements: (1) What is the tentative diagnosis?; (2) What further information would be required for a final diagnosis?

**D**iscussion by Dr. W. A. Newman Dorland, Chicago

**T**HE history of this case fails to record the date of the last menstruation as to regularity. There is also no record given of the blood count, owing to the rapid fatal termination of the case.

There seems to be no doubt as to gonococcal infection of the vagina, followed by acute infection of the tubes proceeding to abscess-formation. Such a condition, however, would not give rise to hemorrhage from the bowel resulting in death; rather, there might occur a rapid invasion of the pelvic and then of the general peritoneal cavity, either due to seepage of the virulent pus from the tubal orifices, or following a spontaneous rupture of the pus sac.

One is led to inquire as to the possibility of the existence of an ectopic pregnancy in one or both tubes, upon which was grafted an acute gonorrhreal infection. There is no doubt that the inflamed tubes were adherent to the bowel and that rupture of the pathologic sac included a tear of the bowel. If an ectopic pregnancy existed in one tube and a

pus-tube was present on the other side, the rapid development of the latter could readily produce such pressure upon the pregnant tube as to cause its rupture. The hemorrhage, then, might have resulted from a tear of the ovarian artery when the ectopic pregnancy ruptured into the bowel; or it might have resulted from the tearing of a large vessel in the bowel wall at the time or perforation of the pus-tube into the bowel.

**D**iagnosis: (1) Hemorrhage from rupture of an ectopic pregnancy into the bowel, with tear of an ovarian artery; (2) Hemorrhage from rupture of an adherent pus-tube into the bowel, with coincidental laceration of a large vessel in the bowel wall.

**D**iscussion by Dr. E. C. Junger, Soldier, Ia.

**T**HIS seems to be a clear case of gonorrhreal salpingitis and peritonitis and certainly was not surgical at that time. The bleeding from the bowel probably hastened her death, but is rather an unusual phase in this connection. This lady might have been a bleeder, and the severe pelvic inflammation and congestion ruptured a weakened hemorrhoidal vein. The decalcification of blood and tissues by severe infections was no doubt an indirect cause of this hemorrhage.

The laboratory tests, had they been made, including coagulation time of the blood, should be enough for diagnosis in this case.

Nothing should ever persuade a surgeon to open an acute gonorrhreal abdomen—I have seen two young women die thus, soon after marrying the same man. The surgeon was threatened with death by the husband after the second catastrophe.

**S**olution by Dr. Van Alstyne

**A**N AUTOPSY was performed with the following findings:

- 1.—Typhoidal hyperplasia of Peyer's patches, with multiple bleeding ulcers in the lower ileum.
- 2.—Melena.
- 3.—Acute hyperplasia of the mesenteric lymph nodes.
- 4.—Acute hyperplasia of the spleen.

5.—Cloudy swelling of the parenchymatous organs.

6.—Simple cysts of both ovaries!

A Widal test was also done post mortem, and was positive.

This was a case of *typhoid fever*. The vaginitis, ovarian cysts and the recent gonorrhea in the husband were simply remarkable coincidents.

Additional history was obtained from the family after the patient's death, to the effect that the patient had passed a slight amount of blood in the stool three days before entering the hospital; but, they said, they thought that this was not of any importance, so had not mentioned it to the doctors.

### Problem No. 2 (Urologic)

Submitted by Dr. Winfield Scott Pugh,  
New York City.

**M**R. J. G. A., white, age 56, married. Chief complaint: Pain at the outer border of the right rectus muscle, priapism and loss of weight.

*Family history:* Mother and father died at around eighty to eighty-five years; one sister succumbed at twenty-seven, apparently of appendicular disease; a brother, of pulmonary tuberculosis, at forty. The rest of history is too vague for consideration.

*Previous personal history:* Says he has never had any illness of moment. Thinks there was some throat trouble and an operation in infancy (probably tonsils, as they are missing). He denies any venereal diseases, but admits a "strain" when about twenty-four years of age.

*Present Illness:* Three years ago, the patient had an attack of what was first said to be colic, around the lower right abdominal quadrant; that condition persisting, an appendectomy was done and he was somewhat relieved for a while. About six months later a similar attack was noted and said to be due to adhesions. This soon passed off, but the patient has never been entirely free of the old annoyance. A year later, the attack came on again, this time accompanied by urgency and frequency of urination, with a slight degree of hematuria. A plain roentgenogram is said to have revealed a shadow, supposedly in the lower ureter, and he was promptly subjected to a ureterotomy. Mr. A. does not know exactly what was found at operation.

Three years later he arrived at our office, looking very ill and weak. It is apparent there has been a considerable loss in weight. He is greatly annoyed by the old pain in the abdomen, and in addition there is urgency and frequency of urination, with (at times) a discharge of pus from his urethra. At times there is marked priapism, with intense sexual urge, and after congress there is a good deal of pain in the urethra.

*Physical examination:* The internists and urologists have gone over the patient quite thoroughly and find nothing to account for the urinary symptoms or priapism.

*Urologic examination:* The urethra shows, at times, a slight mucoid discharge of an unpleasant odor, but contains no tubercle nor color bacilli; not even gonococci. A bulbous bougie, No. 28F., passes readily through the entire urethra. The bladder, when filled with a mild antiseptic solution, showed nothing over the abdomen, either on palpation or percussion. When the rectum was examined, the prostate appeared to be normal in outline and consistency and was not sensitive on pressure. Above and to the right of prostate, there was felt a fibrous mass, pointing as high as I could reach and seemingly extending over the bladder. This area was quite sensitive and, while examining it, a few drops of pus, which revealed no prostatic material, gonococci nor tubercle bacilli, appeared at the meatus.

On urethroscopy, nothing of any importance was found. A cystoscope passed readily into the bladder, the surface of which revealed no evidence of cystitis or other pathosis; however, it seemed as if the right half of the bladder was on a higher plane than the left. Catheters passed readily to both renal pelvis and the urines were normal; phenolsulphonphthalein tests responded in about four minutes from each side and the functions of the renal organs were quite normal. A bilateral ureterogram was negative in every way.

*Cystogram:* The bladder was filled with 15-percent sodium iodide solution and a picture taken, the entire right side of the bladder giving the appearance of a black, solid mass. A contrast cystogram revealed no evidence of diverticula. Bladder urines, aside from a few pus cells, were always quite normal. Repeated Wassermann tests on both blood and spinal fluid, were also negative.

*Requirement:* Suggest possible diagnosis and indicated treatment.

# CLINICAL NOTES and ABSTRACTS

## The Unit of Heredity

THE inquisitive human mind knows no limitation to its curious investigations. Archeology, paleontology, geology, biology, all bear eloquent tribute to this inquisitiveness carried out in the face of seemingly insuperable obstacles—and the end is not yet.

Through these investigations the history of the world and of the solar and stellar universes is being written with an accuracy that is marvelous, to say the least. The work of Eddington, Jeans, Michelson, Compton and others, in physics and astronomy, and that of the laboratory students of the world in physiology, make intensely interesting chapters of the book of recent scientific investigations.

In the fields of biology and physiology, which bear so intimately upon the human body, these investigations have attacked many vital questions, the solutions of which have not yet been reached. The origin of life, the determination of sex, the processes of evolution, the origin of the species, the origin and development of pathologic conditions, the intricate deviations of hereditary manifestations, the functions of the gene, which has very appropriately been termed "the unit of heredity," and the functions of the hormones and the endocrine glands, are all engaging the attention of profoundly thinking scientists, while the whole world stands intent to learn the outcome of their labors.

Probably none of these subjects has attracted so much interest and been so searchingly investigated in recent years as has the gene, a curious and strangely vital body, measuring less than the twelve-millionth part of an inch in diameter, and yet which apparently is the very basis of the hereditary features of man, of which the mendelian law is but a gross manifestation. The color of the eyes, the peculiarities of the physical features, the variations of character, and probably the determination of the sex of the individual, as well as many other things, have their origin, it is believed, in this minute but intricate body.

If the secret of this intensely interesting organism can be revealed, it may be possible to learn how life is formed from non-living matter—and this has been the supreme aim of biologists and physiologists for many years,

the philosopher's stone that will solve the question of everlasting life.

Dr. Thomas Hunt Morgan, formerly of Columbia University and now of the California Institute of Technology, and Professor Guyer of the University of Wisconsin, stand out preeminently among the distinguished scientists who are devoting their time and energy to the solution of this difficult problem in genetics. Indeed, the former has been awarded the Nobel prize in medicine for 1933, for his interesting and valuable work on the eugenic function of the chromosomes.

Probably no one has better expressed the present status of the gene, the life molecule which is apparently formed by the joining of a number of atoms, than has recently Dr. C. B. Davenport, Director of the department of genetics of the Carnegie Institution. He states that genes carry in them all the characters of heredity in body and in germ cells. A knowledge of the structure of the gene will demonstrate the essential difference between living and non-living matter. The fundamental property of this life organism is its capacity for dividing indefinitely, with retention of all its qualities. Upon this property depends all life. Davenport further states that, before the self-dividing molecule had been evolved, this was a lifeless world; and unless it has been evolved in some other planets, they are lifeless still.

The genes create living matter out of the non-living material around them, while periodically that which they have created is returned to its source for new generations to feed upon. They are the great upbuilding agency in a universe that certain astronomers and physicists believe is running down. If this is so, the tremendous battle of the universe is on, and it remains to be seen which will triumph—the upbuilding, self-dividing life molecule or the expanding, running-down universe. Those who believe in an endless life think that there can be but one outcome of this gigantic struggle.

It is all very interesting and very intricate. All honor and success to those intrepid investigators who are not appalled by the immensity of the task they have undertaken.

W. A. NEWMAN DORLAND, M.D., F.A.C.S.  
Chicago, Ill.

### Wider Uses of Sodium Thiosulphate\*

**S**ODIUM thiosulphate deserves to be used much more extensively than it is at present. Relying on the hypothesis that its therapeutic action consists chiefly in protecting the colloidal condition of the serum, I have used it with favorable results in many diseases. In intravenous injections it acts as a stimulant of the reticulo-endothelial system; it modifies the reactions of the organism in severe burns and in eclampsia, especially the preeclamptic states; and it favors chemotherapy in septicemia. It has a remarkable action in certain neuralgias and in rheumatism and acts as an antidote in intoxications with tincture of iodine or potassium permanganate, if used in gastric lavage. Used intravenously, it is an antidote for intoxication with compound solution of cresol, arsenic and heavy metals. The complex salts of thiosulphate and the heavy metals have a selective affinity for cancerous tissues, sensitizing them to actinotherapy, and should therefore be associated with the latter.

In addition to sodium thiosulphate, I employ the thiosulphate of magnesium, of calcium, of copper and lead, and also its selenium salt associated with sodium thiosulphate in a relatively constant and stable solution. In these solutions there is always an excess of sodium thiosulphate, and sometimes of dextrose. Usually 2 Gm. of thiosulphate and 2 Gm. of dextrose are injected intravenously.

J. KABELIK, M.D.

Paris, France.

### Fever Therapy With Typhoid Vaccine†

**F**EVER therapy, especially in neurosyphilis, can be administered by means of the intravenous injection of typhoid vaccine, using from 25 to 250 million killed organisms at a dose and giving two doses on each day of treatment, the second being administered when or shortly after the first dose has produced its maximum rise of temperature (2 to 6 hours). The fastigium following the second dose will be much higher than after the first —104°F. or more.

It is well to dilute the fresh, commercial vaccine, containing 1,000,000,000 organisms to the cubic centimeter, so that each cc. will contain 100,000,000 organisms (1 cc. of stock vaccine to 9 cc. of isotonic salt solution) and to administer it with a tuberculin syringe, so as to insure accuracy.

The optimum first dose seems to be from 100 to 250 million, and the second dose of the

same size. This should, however, be worked out for individual cases.

The treatments should be given on alternate days, with from ten to sixteen treatments to a course. Subsequent courses, if required, may be given after a period of weeks or months.

This method appears to be a satisfactory substitute for malaria therapy, having a wider field of application.

Drs. J. R. DRIVER AND H. C. SHAW.  
Cleveland, O.

### Tetanus Toxoid for Prophylaxis

**R**AMON prepared a tetanus toxoid by adding from 3 to 4 cc. of formaldehyde to a liter of tetanus toxin and incubating it at 37° C. for four weeks.

Experiments upon guinea-pigs with this toxoid, by Bergey and Etris, reported in *Journ. Inf. Dis.*, Nov.-Dec., 1933, show that it is relatively non-toxic, produces a high degree of immunity with regularity, and obviates the unpleasant results (sensitization and serum sickness) which sometimes follow the injection of tetanus antitoxin.

Its use in human beings has not yet been reported, but seems logical.

### Treating a Cold

**T**HERE are several reasons why the medical profession does not treat colds, or rather does treat only a small percentage of them. Frequently patient and doctor alike think, "It is only a cold"; and yet colds cause an annual financial loss to the country of some twenty millions of dollars, so the statisticians say.

While most "cold" patients recover in a few days, the fact that many colds develop into something more serious does not affect the situation: It is still "only a cold."

The cost of professional care keeps some patients from seeking treatment. Mostly, however, it seems that professional advice seldom shortens the period of the attack. Generally, therefore, the professional treatment of colds is not satisfactory to either patient or physician. Of course, from the professional side, how seldom it is that a doctor can get full patient cooperation!

Patients must be taught to be more sensible and less "brave." One should never "fight a cold"—an expression that often means therapeutic inaction. We must *treat* it. Truly necessary nasal surgery is so self-evident that it needs no more than mention.

The basic principles of good "cold" treatment require the following:

\**Presse Méd.*, Aug. 23, 1933.

†*J.A.M.A.*, Dec. 23, 1933, p. 2016.

**Rest:** A few extra hours in bed—seven instead of eleven P.M., saving the heart ten beats a minute, four ounces to the beat; total, 2,400 ounces of heart work per hour.

**Diet:** Less meat; more fruit and vegetables; more water.

**Laxative:** Saline laxative, Para Psyllium, Thalosen or other.

**Alkalinize** with sodium bicarbonate, Sodoxylin or Citro Soda.

**Vitamins:** One Haliver Oil capsule after each meal.

Calcidin usually gives good service as a glandular stimulant. Give 5 grains every two or three hours.

**Nasal Sprays** are effective, when properly used. Metaphedrin or Ephedrine Inhalant may be used every twenty minutes till the nasal passages are clear; then every hour.

**Headache:** Give amidopyrine as necessary.

**Muscle Ache:** Give Neocinchopyrine, p.r.n., but not for too long a time.

**Sore Throat:** Gargle with Metaphen 2500 or aromatic Chlorazene powder, or Hexylresorcinol (S.T.37), swabbing with acriflavine 1:1000 or tincture of Metaphen.

Scores of patients give testimony to the value of preventive treatment with 5 doses, at weekly intervals, of respiratory bacterin No. 27 (Swan-Myers),\* using 0.25 cc., 0.5, 0.75, 0.75 and 1.0 cc. This has proved as effective as it is logical and, at the same time, does away with the inconvenience of the narcotic law regulations in cases where the codeine treatment might seem indicated.

FRANK B. KIRBY, M.D.

Evanston, Ill.

### Metabolic Actions of Dinitrophenol†

DINITROPHENOL (1-2-4) has been shown to increase promptly the metabolic rate in man and laboratory animals to almost any desired level. This action is peripheral, in the tissues, and independent of nervous and glandular functions. Small doses cause a slight increase in oxygen consumption; larger doses cause heat production that may surpass the ability of the animal to dissipate it, so that death occurs from heat rigor. We have suggested that, in proper dosage, dinitrophenol would be a potent therapeutic agent in obesity and in conditions in which a heightened metabolism might be desired.

Having adjusted the diets according to our plan, a week was allowed to elapse, as a control period under regular observation. Dinitrophenol was then administered for from 7

\*This bacterin contains, in millions of killed bacteria: *M. Cattarrhalis*, 500; Friedlander's bacillus, 500; *pneumococcus*, 80; *streptococcus*, 60; *Staph. albus*, 200; *Staph. aureus*, 200.

†J.A.M.A., Dec. 30, 1932.

to 16 days, in capsules, by mouth and before breakfast, the single daily dose being 225 mgm.

Our results justify the following conclusions:

1.—The effects of alpha-dinitrophenol (1-2-4) on basal metabolism, nitrogen balance, urinary organic acids and body weight were studied, in subjects on balanced diets and on diets unbalanced by including maximal amounts of carbohydrate, fat or protein. The dinitrophenol was administered by mouth for periods of from seven to sixteen days. The caloric values of the diets were adequate for the normal metabolism of the subjects.

2.—With the use of these diets, the basal metabolism was increased by from 30 to 50 percent during medication with dinitrophenol.

3.—The subjects excreted less nitrogen than they ingested, yet there were definite losses of body weight. Therefore, body proteins probably were not broken down. The output of urinary organic acid was not increased, thus indicating that the fats were completely burned without giving rise to acidosis.

4.—Accordingly, dinitrophenol may increase metabolism in man, regardless of the energy materials of the diet, although it primarily promotes burning of carbohydrates or fat, at least during short periods, such as those used in this study and on diets of adequate caloric value.

5.—Clinically, dinitrophenol is indicated in treatment for obesity and may be therapeutically useful in other disease states with depressed metabolism. Its main advantages over thyroxine or powdered thyroid would seem to be a prompt and vigorous rise of metabolism and an absence of disturbing subjective symptoms. Its use appears to be relatively safe for as long periods as have been studied so far.

W. C. CUTTING, M.D. AND M. L. TAINTER, M.D.  
San Francisco, Calif.

### The Wright Method of Treating Leg Ulcers\*

THE use of various antiseptics has little effect on chronic leg ulcers. The failure to heal is due to venous stasis and poor return circulation.

On several occasions during the past few years, Mr. Dickson Wright of St. Mary's Hospital, London, has described a method of treatment which is most efficacious. The technic of his method is as follows: When the patient first presents himself with a chronic leg ulcer, if there are visible varicose veins, one of these rather high up in the leg is in-

\*Am. J. Surg., Dec. 1932.

jected with 5-percent sodium morrhuate solution. Immediately after the injection of a varicose vein, an elastic adhesive plaster bandage is wound snugly around the leg from the foot or ankle to just below the knee.

In the first week or so of the treatment, if the ulcer is foul with a very free discharge, it will probably be wise to change this dressing twice a week. Later the plaster is usually left on for a week and, in the late stage of the treatment, often longer. If the ulcer is painful, there may be a little more pain for the first few hours after the application of the plaster; however, by next morning the pain is all relieved and does not return during the course of the treatment.

Within ten days or two weeks, a large ulcer, which has resisted previous treatment for years, shows great evidence of healing and the granulations, which have been indolent and unhealthy, become pink and firm and show every evidence of a healthy surface, with rapid epithelialization at the edges. One vein is injected at each subsequent application of the plaster. The injection of the veins is not at all necessary to cause the healing of the ulcer under the plaster, but this is a convenient time to inject the veins to prevent a recurrence of the ulcer. This method is simplicity itself and can be applied by any physician.

Some of the advantages of compression are: (1) it diminishes the edema and tends to approximate the ulcer edges; (2) it permits full functional activity, and patients who work and take exercise are cured more quickly than those in bed; (3) it cleans the ulcer more quickly than any antiseptic method, and the fetor rapidly disappears; (4) it brings varicose veins to the surface and makes injection possible; (5) it permits rapid healing; and (6) it eliminates the possibility of recurrence in nearly every case.

In August, 1930, Mr. Wright reported 324 cases, with 321 healed. He states that, if the ulcer does not heal, it is either cancer, syphilis or an x-ray burn.

Since September, 1930, I have treated 23 cases with the Wright method and I am of the opinion that it is a very valuable contribution and that his claims are not overstated.

H. R. SHANDS, M.D.

Jackson, Miss.

### Abnormally Rapid Coitus\*

HERE are two distinct types of abnormally rapid connection. The first type is due to a hyperirritability and congestion of the prostate and prostatic urethra, etc., in which the reflex act occurs too soon as a result of the

hyperirritability. In the second type, the rapid coitus is due to a weakening of the sexual muscles, which are not strong enough to remain in a state of contraction for a normal period. In the first type, we get a rapid ejaculation; in the second, there may not be any ejaculation at all.

The treatment in the two types is distinctly different. The treatment in the first type consists in gentle massage of the prostate every five days and at the same time instillations of weak (1:3,000 to 1:500) silver nitrate solution into the prostatic urethra, with the Bangs' sound syringe and not with a catheter or Uitzmann syringe. The advantage of the Bangs' sound syringe is that it is a combination of sound and syringe and the patient thus gets the tonic effects of both sound and silver nitrate. This treatment is given for the distinct object of removing the local congestions in the prostate and prostatic urethra. If stimulation treatment is necessary, it should not be begun until these parts have become normal.

The treatment of the second type is essentially stimulating in character. I have tried every form of stimulation, medical and physical, and at present confine myself solely to the use of the sinusoidal-faradic current. The difference between the faradic current and the sinusoidal-faradic current is that, in the former, a single contraction is produced and the muscle involved remains in a state of contraction as long as the current passes. But this is not the way to develop muscles. It is only by a series of regular, smooth, painless contractions, which is obtained only by the sinusoidal-faradic current, that true development and stimulation can take place.

Treatments are given every four or five days and the results, in the vast majority, are excellent.

MAX HUHNER, M.D.

New York City.

### The Vitamin B Complex\*

ON THE BASIS of my own experiments and the publications made to date on the complex questions of the vitamins B, I feel justified in affirming the existence of three distinct vitamins B: Vitamin B<sub>1</sub>, the anti-neuritic vitamin which controls the nervous equilibrium, is labile to heat and alkalies (it is also designated as vitamin B-P or F); vitamin B<sub>2</sub>, which is antidermatitic and is, above all, the vitamin of cellular life and growth. It is stable in the presence of heat and alkalies and corresponds to vitamin D of Funk and Dubin, and to vitamins G and P-P; vitamin B<sub>3</sub>, the antidenutrition vitamin, is indispensable to the utilization of glucides, pro-

\**Med. Times and Long Island M. J.*, Aug., 1932.

\**Presse Méd.*, Aug. 19, 1933.

teins and lipoids. It is relatively thermostable but is labile in the presence of alkalies. It is identifiable with vitamins B<sub>1</sub> and B<sub>5</sub>, and has sometimes been designated by the letter H.

R. LE COQ, M.D.

Paris, France.

### Diagnosis of Amebiasis\*

THE identification of amebiasis calls for special technical skill and experience. We have found in practice that it is possible to follow a routine method for diagnosis of amebiasis which will obviate all difficulties and meet all the requirements for accuracy. This method depends on the preparation of smears, by the attending physician, directly from the patient, in such form that motile amebas are preserved, as well as cysts, and swab specimens from the sigmoid can be utilized as well as ordinary fecal specimens. These wet smears are sent to a reliable central laboratory for staining and study.

This method was developed on the basis of previous reports and recommendations of Dr. C. A. Lofoid. It is easy for the physician to prepare and keep on hand the few solutions necessary and a supply of proper containers. The method can be summarized as follows:

A small amount of the fresh stool specimen is spread on a clean, flamed slide with a paste brush. The strokes should be made parallel to the longer edges of the slide, to facilitate microscopic examination. The pressure should be so regulated that the material will be spread thinly, eliminating all lumpy particles. Approximately 1½ inches of the surface length of the slide should be covered.

Before the slide is allowed to dry, it is immersed immediately in Schaudinn's fixing fluid.† The slide can either remain for ten minutes in the fixing fluid, heated to 60° C., or be kept over night in the fluid without heating. The slide is then placed for ten minutes in 70 percent alcohol, tinged to a wine color with compound solution of iodine. Following this, the slides are placed in 70 percent alcohol for five minutes and then put in bottles containing 70 percent alcohol, for mailing. A rubber band should be placed round each end of the slide to prevent breakage. In addition, a piece of absorbent cotton should be packed on the top of the slides to eliminate as much movement as possible.

\*J.A.M.A., Aug. 27, 1932.

†Schaudinn's fluid: Two parts of saturated aqueous mercuric chloride in physiologic solution of sodium chloride; one part 95 percent alcohol. This is the stock solution and will keep indefinitely. Four cc. of glacial acetic acid is added to 96 cc. of the stock solution on using. Fresh solution should be made up at frequent intervals.

Each slide should be properly marked with a diamond pencil. Pure ethyl alcohol must be used, and at no time should the smears be allowed to dry. The bottle containing the slides is put in a screw-top, cardboard mailing container and sent to the laboratory to be stained (iron-hematoxylin) and examined.

A. C. REED, M.D., and H. G. JOHNSTONE,  
San Francisco, Calif.

### Dilaudid and Papaverine in Acute Coryza\*

THE results of a series of carefully controlled clinical experiments, extending over a year and embracing 1,468 cases, at the Students' Health Service of the University of Minnesota, indicate that it is possible to cause the complete cessation or marked amelioration of the symptoms of acute coryza, in from 24 to 48 hours, by the administration of certain derivatives of opium; and this without any danger to the patients and with only occasional unpleasant subjective symptoms.

The most effective combination (78 percent of cases improved) consisted of 1/75 grain (0.86 mgm.) of Dilaudid (dihydromorphinone hydrochloride) and ¼ to ½ grain (16 to 32 mgm.) of papaverine, giving one such dose in the morning, one in the afternoon, and twice to three times the dose at bedtime. If necessary, this treatment was repeated on the second day. No other treatment of any kind was prescribed.

Nearly as effective as this (75 and 74 percent improved, respectively) were combinations of ¼ grain of codeine with ¼ to ½ grain of papaverine; and 1/10 grain (6 mgm.) of morphine with ½ grain of papaverine, administered in the same manner. In fact, morphine and Dilaudid alone, in doses of ¼ grain (16 mgm.) of the former, given at bedtime, and 1/75 to 1/48 grain (0.86 to 1.37 mgm.) of the latter, given in the same way as the combinations, produced nearly the same results (73 and 72 percent improved, respectively), but also gave rise to a much higher percentage of toxic symptoms.

The administration of the commonly used "cold" remedies—acetylsalicylic acid, alone or combined with acetphenetidin and caffeine; and large doses of sodium bicarbonate—produced no better results than those seen in untreated cases (controls, given tablets of lactose).

None of these combinations produced any appreciable effects in chronic colds (those of over 4 days duration or with mucopurulent nasal secretions) nor in cases of influenza or pharyngitis.

It would appear, from these experiments,

\*J.A.M.A., Dec. 23, 1933, p. 2042.

that papaverine has the power of reducing the toxicity of morphine, codeine and Dilaudid, without reducing (perhaps even enhancing) their effectiveness, at least in this type of cases.

HAROLD S. DIEHL, M.D.

Minneapolis, Minn.

### Prevention of Chills Following Transfusion of Citrated Blood\*

THE great popularity that blood transfusion enjoys today is based on the introduction of the citrate method 18 years ago in the Mount Sinai Hospital, of New York City. It represents the simplest and easiest procedure, and citrated blood has the same clinical value as unmodified blood. The first 17 transfusions given by this method were free from chills and post-transfusion reactions. They were given by one person who paid meticulous attention to the preparation and use of the apparatus and solutions. When given by others who paid less attention to these matters, chills began to occur and in recent years they have occurred in about 20 percent.

Chills and reactions following blood transfusions are due to the presence of foreign proteins, either extraneous matter in the distilled water or the remains of changed blood proteins from a previous intravenous injection. Thus, the main step in their prevention is the careful cleansing of apparatus and the preparation of solutions absolutely free of foreign protein.

The following procedures are carried out at Mount Sinai Hospital for the elimination of reaction-producing substances:

**1.—Distilled Water, Sodium Citrate and Sodium Chloride:** Triple-distilled water, obtained from a special Barnstead still, is used for the preparation of sodium citrate (30 percent) and sodium chloride (0.85 percent).

Sodium citrate (30 percent) may also be bought on the open market in 5 cc. ampules. One should inquire from the manufacturer for sodium citrate prepared with triple-distilled water. For actual use, 1 cc. of this concentrated sodium citrate solution is used for every 100 cc. of blood.

**2.—Special Cleansing of Apparatus:** After each transfusion, all parts of the apparatus are separated and washed in cold water for the removal of blood. They are then washed in a dilute solution of green soap, to which compound solution of cresol has been added to make up about a 1 percent solution. They are then thoroughly rinsed in tap water.

All parts are then placed in a large pan containing sodium hydroxide (0.1 percent solution) and boiled for five minutes. They are then transferred to a large pan containing distilled water, to remove the sodium hydroxide. The glassware and rubber tubing are again washed with triple-distilled water and are ready to be assembled and sterilized, either in metal boxes or in special bundles, in the autoclave.

The glassware and rubber tubing are boiled separately. The needles are always sharpened before being treated, but boiled for only three minutes in sodium hydroxide solution (0.1 percent).

**3.—Preparation of Apparatus for the Autoclave:** (A.) For the donor: A bundle containing the apparatus for taking the blood from the donor (two pyrex cylinders, 500 and 10 cc., respectively, one glass rod, two tourniquets, two needles, gages 13 and 15, Luer adapter and rubber tubing, one ampule of 30 percent sodium citrate; (B.) For the recipient: A metal box containing glassware, rubber tubing and cannulas for the transfusion into the recipient.

The great benefit derived from the strict enforcement of these rules is evident from the following statistical data:

In 1930, among 412 transfusions given in the wards of the Mount Sinai Hospital, there were 39 chills (9 percent). Of these transfusions, 243 were given by the citrate method, with 29 chills (12 percent), and 169 were given by the Unger or Rosenthal method, with 10 chills (6 percent).

From Oct. 1, 1931, to Oct. 1, 1932, 5 chills occurred among 477 transfusions (1 percent). Three hundred and thirty-one (331) citrate transfusions were followed by 4 chills (1.2 percent), and 146 Unger or Rosenthal transfusions were followed by 1 chill (0.7 percent). Three of these five chills were due to errors in technic; 2 were probably due to a hemolytic crisis, as both patients had hemolytic icterus.

These statistics represent the combined material of the medical, surgical, gynecologic, neurologic, otologic and pediatric services. About twenty different members of the house and residence staff gave the 477 transfusions from October, 1931, to October, 1932. We feel that if a team of two or three men would perform all the transfusions given in this hospital, post-transfusion chills might be eliminated completely. Our statistics show that they are avoidable.

RICHARD LEWISOHN, M.D., and

NATHAN ROSENTHAL, M.D.

New York City.

\*J.A.M.A., Feb. 18, 1933.

# DIAGNOSTIC POINTERS

## Normal Systolic Blood Pressures for Any Age

**N**M. J. & Record, Feb. 17, 1932, Dr. F. A. Faught, of Philadelphia, gives a modification of the formula, devised in 1910, for determining the normal average systolic blood pressure at any age. This is based upon the accumulated data of the large life insurance companies and conforms to the newer conception of normal systolic levels in males between the ages of 20 and 60 years. The amended formula reads as follows: "Consider the normal average systolic pressure in the healthy male at the age 20 years to be 120 mm. Hg., to which should be added 1 mm. Hg. for every three years of life beyond the age of 20 years." This limits the permissible systolic level at the age of 59 years to 133 mm. Hg.

## Functions of the Liver

**E**XCISION of the entire liver from animals without other disturbance has demonstrated that the organ is the only source of blood sugar in the fasting animal; that bile pigment is not made in the liver but excreted by it; that formation of urea ceases with concentration of uric acid in the blood and tissues; that apparently the liver is the source of fibrinogen and of acetone bodies. The detoxicating function of the liver cannot, of course, be demonstrated in this way, and there are probably many other functions which will be discovered in the future.—DR. J. MARKOWITZ, of Georgetown University, in *Med. Ann. Dist. of Columbia*, Jan., 1932.

## Food Allergy in the Diagnosis of Abdominal Symptoms

**T**HE realization that food allergy can produce a wide variety of gastrointestinal symptoms necessitates the consideration of this etiology in the differential diagnosis of abdominal complaints. These symptoms frequently simulate acute or chronic abdominal lesions, and the necessity for the study of every such patient, with potential or active allergy in mind, is paramount. Positive or negative evidence of such allergy should be included in the family and personal history of every patient.—DR. A. H. ROWE, of Oakland, Calif., in *Am. J. Med. Sc.*, Apr., 1932.

## Impending Intrauterine Death

**T**OXEMIC or nephritic pregnant women, who are allowed to continue pregnancy for the sake of a baby, should be hospitalized as soon after seven months as the individual case seems to warrant. They should be watched most carefully, because we know that oftentimes, with the intrauterine death of the baby, amelioration of the toxemic or nephritic symptoms takes place.—DR. R. S. TITUS, in *Am. J. Obstet. & Gynec.*, Sept., 1931.

## Functions of the Spleen

**T**HE functions of the spleen are associated with blood formation, blood destruction and as a reservoir for red blood corpuscles and lipoids. Also, in some ill-understood way, the spleen seems to be definitely associated with the manufacture of hemolytic antibodies.

Investigators have found that splenectomized animals cannot be immunized against tetanus toxin, and that diphtheria toxin, detained in the spleen, is temporarily prevented from harming the organism as a whole. Undoubtedly the spleen, with its reticuloendothelial units, plays an important part in defending the organism against infection, but we are at present without information concerning the mechanism it employs.—DR. L. H. FRENCH, in *Med. Ann. of Dist. Columbia*, Feb., 1932.

## Gonorrhreal Urethritis

**P**ERSISTENT gonorrhreal urethritis should be regarded as a symptom of complicating affection requiring special research for pocketed infection. There is one investigation to which attention should be directed; it is devoid of danger and assists in knowing the extent of infection in the glands of Littre. This is to strip or massage the anterior urethra from behind forward, after a thorough irrigation to wash away pus not in protecting pockets. The surprising part of this procedure is the frequency with which pus can be obtained when there are no palpable masses felt along the urethra. The pus probably comes from follicles with openings large enough to drain away pus without allowing it to form in closed pockets.—DR. E. G. BALLENGER AND ASSOCIATES in *J. Urol.*, Sept., 1931.

## NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, North Chicago, Ill., is accompanied by a check for the published price of the book.

To add a library to a house is to give that house a soul.—CICERO.

### Cameron: Asthma

SOME THOUGHTS ON ASTHMA. By A. J. D. Cameron, M.B., Ch.B., Turnbridge Wells. Bristol, England: John Wright & Sons, Ltd.; Baltimore: William Wood & Co. 1933. Price: \$2.75.

To all those interested in asthma this little book will be useful and suggestive. Without being an attempt at a textbook, it gives the fruit of much clinical experience and painstaking biochemical observations. Clinical acumen and sanity of judgment are proved by the successful results of treatment—the only valid test.

Dr. Cameron shows clearly, in a way that must convince any open mind, that the basal factor in asthma is a toxicosis with acidotic tendency. This toxicosis is connected mainly with disturbance of hepatic and gastro-intestinal function, but involving every organ in the body, from bone to skin—blood, lungs, nervous system, the endocrine glands. In the chronic asthmatic there is, not only bronchospasm, but a dirty skin; the blood shows lowered values for urea and alkali reserve, increase of uric acid, bilirubin and amino acid, flocculation of protein particles; in the urine Dr. Cameron finds high acid values, low urea, high uric acid, amino acids and creatinine. After detoxication these pictures are reversed. The skin clears, spasm goes, the biochemical findings become normal, adrenalin is no longer needed.

What ought to strike every one is that, while allergy has been proved in only fifty percent of asthmatics, the detoxicating treatment succeeds both in allergic and non-allergic cases, and often after treatment by attempted desensitization has failed. Allergy is thus relegated to its proper secondary place—an outcrop on toxic soil. The detoxicated patient can stand up to his old foes, whether they be labelled allergens or atropens; allergen-proof chambers, vaccines, injections—whether of peptone, milk, tuberculin, or from the omnium-gatherum called house-dust—are not needed. Dr. Cameron says that for two years he has had recourse to adrenalin in only a single case, one complicated by silicosis.

The details of Dr. Cameron's treatment deserve, and will get, close attention; especially the importance he rightly attaches to the colonic douche, to diet, the pyretic bath and the use of insulin, along with dextrose or lactose.

On the whole, this monograph means a clear step forward in our knowledge of the nature of asthma and of the way to treat it.

JAMES ADAM, M.D.

Glasgow, Scotland.

### Cecil: Textbook of Medicine

A TEXTBOOK OF MEDICINE. By 141 American authors. Edited by Russell L. Cecil, A.B., M.D., Sc.D., Professor of Clinical Medicine, Cornell University Medical College, Associate Editor for Diseases of the Nervous System, and Foster Kennedy, M.D., F.R.S.E., Professor of Neurology, Cornell University Medical College. Third edition; revised and entirely reset. Philadelphia and London: W. B. Saunders Company. 1933. Price \$9.00.

This book is an authoritative and up-to-date treatise on every medical subject. Each disease or group of diseases is discussed by a writer particularly interested in that subject. Most of the contributors are teachers of medicine in university medical colleges and have presented their material in a form especially acceptable to medical students.

This edition has been prepared because of the important advances that have been made in internal medicine during the past three years. A number of well-known physicians have contributed to this edition for the first time. It contains new articles on Plague, Kala Azar, Psittacosis, Rat-Bite Fever, Pertussis, The Erythemas, Diseases of the Bronchi, Hypotension, Diabetes Mellitus, The Neuroses, Poisoning by Radioactive Substances, and Diseases of the Parathyroids, Suprarenal System, and Pituitary Body. The changes made in the old articles have been so extensive that it has been necessary to reset the entire book. The comprehensive list of authors makes the treatise one of the very best textbooks available on general medicine.

**Gleason: Nose, Throat and Ear**

**A** MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. B. Gleason, M.D., LL.D., Professor of Otology, Medico-Chirurgical College Graduate School of Medicine, University of Pennsylvania. Seventh Edition, Revised and Entirely Reset. Philadelphia and London: W. B. Saunders Company. 1933. Price \$4.50.

In preparing the seventh edition, Dr. Gleason has eliminated so much old material and added so much new material that it has been necessary to reset the entire book. Careful consideration has been given to the more important facts of the anatomy, physiology and pathology of the upper respiratory tract and ear. Methods of treatment have been simplified as much as possible. Sections on the treatment of suppuration of the nasal accessory sinuses and the ear have received very careful consideration, with the object of being as conservative as possible, but also as radical as necessary in operative procedures.

The formulary at the back of the book, which has always been a special feature, has been amended to include additional therapeutic details and sometimes the pharmacology of the more important drugs mentioned in the text, with the thought that the manner of use and the preparation of a remedy is often of more importance than the drug itself. The index is much more complete than that of any previous edition.

This manual is intended to supply students and general practitioners with the essential facts of rhinology, laryngology and otology in as concise a form as possible. It is excellent for textbook or reference.

**Brain: Diseases of the Nervous System**

**D**ISEASES OF THE NERVOUS SYSTEM. By W. Russell Brain, M.A., D.M., (Oxon.), F.R.C.P. (London), Assistant Physician to the London Hospital and the Royal London Ophthalmic Hospital; Physician to the Hospital for Epilepsy and Paralysis, Maida Vale; Neurologist to Mount Vernon Hospital; Chief Medical Officer to the London and Scottish Assurance Corporation. New York and London: Oxford University Press, Humphrey Milford. 1933. Price \$8.75.

The study of neurology is dependent chiefly on anatomy and physiology. Formerly, the anatomic side of neurology was the one best developed. Now, the physiologic side is equally well developed. The past twenty years have witnessed a remarkable development in neurology. Investigation of the effects of war injuries of the spinal cord has greatly increased our knowledge of reflex action in man. The appearance of encephalitis lethargica and the multiplication of forms of acute disseminated encephalitis have added a new field to clinical neurology and

brought it into relationship with the new branch of bacteriology which studies the filterable viruses. The discovery of important metabolic centers in the hypothalamus has enhanced the importance of neurology to general medicine. Advances in the technic of neurologic surgery have aroused fresh interest in the symptoms and pathology of intracranial tumors.

In the first part of this book, Dr. Brain has discussed the application of anatomy and physiology to the interpretation of the physical signs of nervous disease. In other parts, sections dealing with anatomy and physiology occur as introductions to clinical sections. The clinical sections are arranged practically, both for study and reference use. The list of references covers 55 pages. They follow the general body of the text and are numbered according to sections, making them suitable for ready reference. There are fifty illustrations. The book is one of the Oxford publications and meets all the standards expected of them. It brings information on the nervous system and its diseases as near down to date as possible.

**Buschke & Jacobsohn: Sex Habits**

**S**EX HABITS. A Vital Factor in Well-Being. By A. Buschke, M.D., and F. Jacobsohn, M.D. Translated from the German by Eden and Cedar Paul. Foreword by Gerard L. Moench, M.D., New York Post Graduate Hospital (Columbia University). New York: Emerson Books, Inc. 1933. Price \$2.50.

This is a simple, straight-forward and reasonable discussion of the anatomy and physiology of the male and female sex organs, and of the psychology of their proper use. The opinions expressed are in accordance with the soundest present consensus and the presentation is direct and free from any hint of prurience. There is a brief chapter on abnormal sex manifestations. The translation is excellent.

Here is a book which the physician who feels his responsibility as an educator can conscientiously recommend to his thoughtful patients, for it will assist them in directing their lives and in cooperating with him more intelligently.

**Curtis: Obstetrics and Gynecology**

**O**STETRICS AND GYNECOLOGY. Edited by Arthur Hale Curtis, M.D. Professor and Head of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of the Gynecologic Service, Passavant Memorial Hospital, Chicago. Volume 3. Philadelphia and London: W. B. Saunders Company. 1933. Price: Per set, \$35.00.

The first two volumes of this set were reviewed in CLINICAL MEDICINE AND SURGERY for September, 1933, on page 497.

This third volume deals, in the same adequate way, with Pelvic Displacements and

Relaxations; Disturbances of Function; the Endocrines; Special Diseases and Symptom Complexes (such as endometrosis and leukorrhea); other Gynecologic Diseases (such as lesions of the cervix, vagina and vulva); and Special Topics (which have important bearings on clinical practice in this field).

All three volumes are well made, well printed, well illustrated, and have adequate bibliographies and volume indexes.

The fourth (thin) volume is a general index of the set, for handy use at the desk.

The man who has this set is equipped with authorities in this specialty.

### Clendening: Story of Medicine

**B**EHIND THE DOCTOR. By Logan Clendening. With Illustrations from Contemporary Sources, Portraits, Photographs, and Original Drawings by James E. Bodrero and Ruth Harris Bohan. New York: Alfred A. Knopf. 1933. Price \$3.75.

The story of Medicine contains such a wealth of dramatic incidents, exciting occurrences, humor and pathos, that, with proper handling, it can be made as interesting, even to the layman, as any novel—and more so than most.

That is what Dr. Clendening has done, with his usual literary cleverness, in this truly fascinating volume, where the picturesque story of all that is behind the present-day physician flows along, with a wealth of anecdotes and well-chosen illustrations.

The more the general public knows about the real history of medicine, the better, for they will then be more able to estimate the irregulars at their true value; so one hopes, as well as believes, that this book will receive the wide reading it deserves. Physicians should recommend it to their patients; and many of them, who have had little taste for medical history in its drier and less digestible forms, will do well to read this volume, from cover to cover, themselves.

### Rossiter: Sex Harmony

**T**HE TORCH OF LIFE. A Key to Sex Harmony. By Frederick M. Rossiter, B.S., M.D., Licentiate, Royal College of Physicians, London; Member, Royal College of Surgeons, England. New York: Aventine Corporation. 1932. Price \$2.65.

It is well that the literature of erotology (the science and art of love) should be enriched as much as possible, so all reasonably authoritative and informative books along this line are welcome.

This volume is simpler and less direct and detailed in its treatment of the subject than some of the others which are now available. For that very reason it may be more acceptable to those persons who still look upon sex as something which is more or less taboo, and who have done no previous reading along that line. The introduction is a reprinting of a book of the Bible, "The Song of Solomon,"

which is one of the most beautiful erotic love dramas in existence. There are no pictures of the sex organs to shock delicate sensibilities, but the descriptions are sufficiently clear. The psychic side of sex relationships is satisfactorily treated.

Here is a book that the physician can safely recommend to any of his married or about-to-be-married patients who need this information—and that means most of them.

### Food Charts

**S**UN-DIET CORRECT EATING, HEALTH CHARTS. Prepared by Dr. Rasmus Al-saker. East Aurora, N. Y., 256 Willow St. The Sun-Diet Health Foundation. 1933. Price \$2.00.

For those who accept the dictum, which has been rather widely promulgated, that starches and proteins should not be eaten at the same meal, here is a practical arrangement for planning such a diet.

In a metal frame, suitable for hanging in the kitchen, are six cards 8½ by 11½ inches, showing: (1) proper combinations of foods, in tabular form, with various hints and suggestions for their use; recipes for a number of the dishes suggested; and menus for a month, suitable to spring, summer, autumn and winter.

Physicians who desire to prescribe diets of this sort will do well to recommend these charts to their patients, as the necessary information is presented in concise and practicable form.

### Rusby: Amazon Pharmacology

**J**UNGLE MEMORIES. By Henry H. Rusby, Emeritus Dean and Professor of Materia Medica, College of Pharmacy, Columbia University, New York City. New York: Whittlesey House, McGraw-Hill Book Company, 330 West 42nd Street. 1933. Price \$3.50.

How better can one strike a balance than by delving into "Jungle Memories" with its tropical atmosphere, when just out doors the thermometer shows ten below? Here is a happy hunting ground for the botanist—more particularly the pharmacologist. One can almost smell the quantities of gorgeous flowers as the author turns a mountain of rock to come unexpectedly on some wonderful fuchsias or oxalis or perchance an unknown that looks like a gentian and proves to be one.

We share his pleasure in the glory of the chase as he finds coca and cinchona quite at home in all the beauty and ruggedness of their natural habitat. It is even more thrilling to trace with him the native rumors of plants of marvelous drug action and find in pichi or coccillana new drugs, new to civilization, and ultimately to demonstrate real, scientific clinical values for each of them.

Naturally "Jungle Memories" opens entirely new scenery for dwellers in the plains of temperate North America. The contrasts

of perpetual snow and the tropics, modes of travel, contacts with savage natives and the hazards of trail blazing, with only a compass and a rumor for guides, obligates us to such pioneers as Doctor Rusby, who make it easier for the clinicians of today to better treat the dependent sick.

"Jungle Memories" will give hours of high-class entertainment and instruction, while proving a worthwhile memorial to the author. The medical world is fortunate in having the facts of this interesting transcontinental trip in so splendid a form.

F. B. K.

### Smith: Parent Education

**I HAVE CHILDREN.** By Francis Smith, M.R.C.S., L.R.C.P., New York and London: Humphrey Milford, Oxford University Press. 1933. Price \$1.75.

Free from technicalities and written in so simple a style that any person of ordinary intelligence can understand it, this little book bears evidence of the wide experience of its author in dealing with children and contains a wealth of information in the form of simple and valuable suggestions to prospective parents, parents of young children and those interested in any way in child welfare.

In 130 pages Dr. Smith has covered: "The Selection of Parents," "The Prenatal Stage," "Babyhood," "Early Childhood (Parts 1, 2 and 3)," "Childhood—The School Age" and "The Abnormal Child." At the end of the book, he has given a very helpful list of "dos" and "don'ts" for parents.

This is a book the doctor will want to recommend to those of his patients who have just undertaken or are about to undertake the tremendous responsibility of parenthood.

L. M. C.

### Pribram: Classification of Bacteria

**KLASSIFIKATION DER SCHIZOMYCTEN.** (Bakterien) Versuch Einer Wissenschaftlichen Klassifikation der Bakterien Auf Botanischer Grundlage. By Prof. Dr. Ernst Pribram. D. Z. Professor für Bakteriologie und Präventiv-Medizin an der Loyola University, School of Medicine, Chicago, Illinois, U.S.A. Leipzig und Wien: Franz Deuticke. 1933.

This is a scientific classification of bacteria, on a botanic basis, and will be valuable to bacteriologists who read German.

### REALITIES

*Since only the Intangibles are sure—  
Love and desire, bright prisms of the spirit—  
Let no man ask if Absolutes endure  
If in his soul there's music and he hear it.*

A. M. SULLIVAN, in *Voices*.

### Word Origins

**PICTURESQUE WORD ORIGINS.** With forty-five Illustrative Drawings. Springfield, Massachusetts: G. & C. Merriam Company. 1933. Price \$1.50.

Many people speak without thinking (a bad habit), and most talk without thinking of the words used and what they mean. A good dictionary is a help here, but most folks need something, such as this book, to whet their appetites for etymology.

Here, in a pleasing form, one will find full explanations of the history and original meanings of some of our common words: Alimony is literally a "meal ticket" (from the Latin, *alimonia*—nourishment); an assassin was an eater of hashish; bombastic means "stuffed with cotton" (from the Latin, *bombax*)—a good name for some speeches; a bribe was once a piece of bread (Latin, *briba*) or scraps of food given to a beggar—hence, in English, a present; a budget was a little leather bag (Old French, *bougette*) for carrying money; to calculate was the method of the illiterate Romans for counting by means of small stones (*calculi*), as the Chinese use the abacus; a fool was a windbag or bellows (Latin, *follis*); and so on.

This volume would be handier if its backbone ran the long way, as is customary, but anyone who is at all interested in words will find it decidedly enjoyable.

### Arundale: Spiritual Attainment

**OUNT EVEREST: ITS SPIRITUAL ATTAINMENT.** By George S. Arundale, LL.B., M.A. Wheaton, Ill.: The Theosophical Press. 1933. Price \$1.50.

Many medical men find that relaxation and rest come from reading mystery stories; but refreshment can also be obtained by reading Dr. Arundale's "Mount Everest."

Those who have not previously read occult literature would best begin their reading on page 63, the chapter on the *Psychology of Yourself*, and read the first chapter last.

There are minds to heal, as well as bodies, and an understanding of the "other bodies" should be helpful to the doctors who are eager to add value to their service. The understanding man can "leave the lower self behind in this service to others."

Bishop Arundale is a very human person—a man's man—and he inspires confidence in his listeners and readers. M.L.B.L.

# MEDICAL NEWS



The Library of CLINICAL MEDICINE AND SURGERY and the People Who Manage It (See Editorial in This Issue).

## Blue Spruce Seeds

THE importance of reforestation has been given great prominence, of late, by the activities of the Civilian Conservation Corps, and Frank S. Betz, the well known manufacturer of surgical instruments, wants to do his part. Accordingly he will send, to any reader of this journal who will send him (Betz Bldg., Hammond, Ind.) twelve cents in stamps, enough seeds to produce at least 600 Colorado blue spruce trees. He will also be glad to send impressive literature on this highly important subject to any who may be interested.

## American Public Health Association

THE American Public Health Association will hold its sixty-third annual meeting in Pasadena, Calif., September 3 to 6, 1934. The Western Branch of the Association will hold its fifth annual meeting at the same time. All health officers and others interested in the social phases of preventive medicine should consider attending this important meeting.

Full particulars may be obtained by writing to the Association at 450 Seventh Ave., New York City.



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### Norman Haire

**N**ORMAN HAIRE, Ch.M., M.B., of London, one of the best known British exponents of birth control, is an Australian by birth, received his medical education at Sydney University and in various Australian hospitals, served as a Captain in Australian Army Medical Corps during the War and settled in England in 1919.

As a specialist in obstetrics and gynecology, he became interested in the problems of sex and eugenics, including birth control, and has spent much time in the study of these matters and in disseminating the information so obtained by the written and spoken word. In 1925 he toured the United States and Canada, lecturing on contraceptive methods before medical schools and societies.

Mr. Haire (our British confreres receive the Doctorate in medicine only as a graduate degree) has recently been in this country, attending the American Conference on Birth Control and National Recovery, which was held in Washington, D. C., in January, 1934, under the auspices of the National Committee on Federal Legislation for Birth Control.

The bill repealing our archaic laws relating to the dissemination of contraceptive informa-

tion may come up for action soon. Write to your Senators and Congressmen, urging their support of this measure.

### Zinc Is Not Poisonous

**A** STUDY of zinc in relation to public health is included in *Public Health Reports*, Aug. 11, 1933, and shows that this metal in itself, is not poisonous, though certain of its compounds, such as zinc chloride, are so irritating and caustic as to be dangerous to life, if improperly used.

Poisoning attributed to zinc is shown to be due to such toxic metals as lead, arsenic, antimony and cadmium, with which it is frequently contaminated.

The authors of this report feel that the use of galvanized iron or brass pipes as water mains is not dangerous to health, and that cases of industrial poisoning attributed to zinc are due to its contaminants. Foods and beverages should not, however, be stored in zinc-lined or galvanized containers, because their contained acids will form simple zinc salts which are irritating to the stomach.



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### Sponsors of the Tugwell Bill

**H**ERE is a picture of the men who are behind the disastrous Tugwell Bill, which has been mentioned several times in these columns. From left to right they are: Henry A. Wallace, Secretary of Agriculture (one wonders what this has to do with drugs and cosmetics); Senator Royal S. Copeland, M.D., of New York; and Rexford G. Tugwell, Asst. Secty. of Agriculture, one of the revolutionary radicals in the Administration, who wrote the bill in its original form. It is reported that modifications and amendments will soften some of the dangers of the Bill, but every physician should write to his senators and to the congressmen from his district, protesting against the passage of this measure (see editorial in Dec., 1933, C.M.&S., p. 624).

# SEND FOR THIS LITERATURE

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